



AMATEUR BOAT BUILDERS' ASSOCIATION

December January 2018

MASTER SHIPWRIGHT IAN WEAVER ON VARNISHING

Ian did his apprenticeship as a shipwright back in the 1970's and 80's at the South of Perth Yacht Club and has worked for a lot of well known people including Fremantle Boat Manufacturers and has done some marine surveying following his qualification in this area. He is now working as Weaver Marine.



We'll let Ian take it from there;

"I have spent 40 years doing professional varnish work. What we have done is created a standardised process for varnish work that gives a high quality varnish work that can be scaled 10/10 for super yacht, or you can have 6/10 or 5/10 and 7/10 but maintain the life span of the varnish, so we offer this service professionally, classic boat restorations is what we do.

Over the course of 40 years, I have learnt many tricks to improve the quality of varnish work. I am a boat owner myself - of a classic yacht called Robin Hood. Our aim is to improve the quality of our varnish work and learn time saving tips and get the best value for the time we put in. We are going to break it up into three sections. We will look at product, preparation and technique.

There is a very big difference between maintenance and restoration varnish work. This is what you need for **maintenance varnish work**;

1. Water proof or varnish mat
2. Microfibre cloths
3. 3 different sized of tape (3M original)
4. Tack cloths (waxy cloth for removing dust)
5. Turps
6. Abrasives a roll of 80, 120, 180, 320, 400 (Endasa sand paper from Boat Paints)
7. Dust brush
8. Scourer abrasives 3 grades (Boat Paints)
9. Cork block
10. Bucket with a sharp edge
11. Gloves
12. Snap knife
13. Paint filters (Boat Paints, Yacht Grot, Bunnings Morley)
14. Can opener
15. A custom block
16. Brush tube (PVC with a cup and with a little turps in the bottom)
17. Paint scraper
18. Synthetic filament brush (Purdy from Solver Paints) 25 and 37mm (sashcutter) angled, 50mm
19. Pencil
20. Note book to record replacement stock
21. Varnish

The objective is to get our boats out of restoration mode and into maintenance mode. If your boat is in maintenance mode, you will save 70% of varnishing time. For example, a dorade box has sat in the sun for 12 months and nothing has been done to it. The gloss has gone off it and it has 10 coats of Epifanes varnish on it. In maintenance mode, it is easy to get a flat sand by whipping it over with 400 grit paper, tape it up, wack a coat on it and it will look spectacular. If you put two coats on a year, that's all you need to do.



In restoration mode we need to strip (with a heat gun) and straighten to get to maintenance mode. Extra tools you will need to do **strip and straighten work**;

1. Custom sanding blocks
2. Heat gun (be careful with Queensland Maple - easy to put burn marks on it, also be careful with heat near glass windows)
3. 2 x Three corner scrapers - one with the edges knocked off (to limit the possibility of damage to the timber)
4. Torture boards or speed boards
5. 80 grade paper
6. Rotary orbital sander 125mm
7. Brush spinner (for drying brushes out of turps)

Product Stuff

We will have a look at traditional oil varnishes and alkyd blend varnishes and single and two pack (two pack for internal purposes) polyurethanes because product developments are changing the varnish work industry. For example - Awlgrip Awlwood is the product that the boating industry is currently talking about, but in the next four or five years they will realise that this product is not without its problems. We will go through that a bit later. Dek's Olje is not a bad product but it is a product that I cannot recommend. It seems easy to use but it has a lot of complications. It doesn't last that well and never gives a great finish, only an ok finish.

The classification for all varnish is that it is either a high solids or a low solids varnish.

International Gold Spa is possibly Australia's most used varnish designed for the do it your selfer. It is a very clever product, it is very thin so it is very easy to use. Because it is low solids, it works easily, you will get a reasonable finish but it is very slow to build. Varnish work works on skin thickness because the more UV stabilisers you can pack into your film of varnish, the better it will work. A thin varnish is 75microns wet. Generally the standard coat of varnish is about 65 microns. What we are aiming for is thick varnish. Thick varnish has more UV stabilisers and lasts longer. So what happens with varnish is it goes on at 75 microns but when it dries will shrink down to 37 microns for example. Polyurethane's will shrink to 2/3 their original size because that's how they get their finishes. So if you are using Goldspar going on at 30 microns drying to 15 microns and sand off 10 microns there is 5 microns left. That is the issue with low solids varnish. They are user friendly, will work in the wind, the sun, but you just won't get the skin thickness required for a quality job.

Thin paint dries faster than thick paint but the misconception is that if you want to lengthen the tack or wet edge time, you put thinners in and that will decrease the tack time. But what is needed is a thinner and a retarder; the thinner to get a consistency that makes brushing easier and a retarder to increase the tack time.

Brushing tip - never brush horizontally as the brush marks will gather together and will form runs. Brushing vertically will allow for 30% more product regardless of the grain and you won't see the brush marks.

International Schooner is a traditional tung-oil varnish but it has a alkyd mix, so I would use it over Goldspar because it has 48% solids. It's only 2% more but it makes a lot of difference in varnish. It goes on at 63 micron, dries to 30 micron and is not a bad product. It is very capable of being manipulated because it is not alkyd rich.

Hemples Favourite Varnish (urethane alkyd blend) is thick with 49% volume of solids. I can get it on at 60 to 80 micron wet and I put 10 coats on to a super yacht in the work shop, but in the

wind and sun it was almost uncontrollable. This means that for a product that only comes with a thinner, there is no way of controlling it. I put 10 coats on and it looked sensational for 12 months or more. I looked at it as it starts to lose its gloss and it's about time to get a coat on. Before I had the opportunity and just in a couple of days, it actually exploded from the bottom, which is really unusual. It breaks up in sheets and peels the whole 10 coats back to wood. If you use this varnish, you need to just keep coating it and don't let it get old.

Norglass Premium is a urethane alkyd blend which means it will be difficult to use in the sun and wind. It has only 43% volume solids so is a low solids varnish and can be difficult to use.

Bondall Monocel is your Bunnings varnish that is an aliphatic polyurethane single pack. There is no PSD product information on this or disclosure sheet or data sheet, but it does work. Not a particularly fancy varnish, it would be difficult to work with in the sun and wind.

Awlgrip Awlspar Classic Varnish is a varnish that I would buy if I cannot get my usual varnish. It is a traditional tung-oil varnish — a phenolic synthetic polymer mixed with tung-oil. Tung-oil is a nut from the Tung tree. It is a natural product and is what traditional varnishes were always made of. Everything that Awlgrip makes will be good. This varnish will go on at 50-70 micron wet and dries off at 25-37micron.

Epifanes is the standard super yacht varnish. It gives the best finish and the best building power on the market that isn't a single pack polyurethane, and is used in the Mediterranean on varnished boats. This is an original tung-oil varnish. It is reasonably expensive, it is thick - almost like treacle - with 50% volume solids. It goes on at 60-80 micron and dries off at 30-40 micron so you are getting a lot more varnish on the job with this particular product.

Awlgrip Awlwood is a new product that is ripping through the boating industry. This is thick, but it comes with a thinner and retarder making it easier to use in horrible conditions. This makes a good varnish, capable of being controlled when hanging off the side of a boat in a 25 knot wind! I have done a mast restoration 4 years ago with this that is still uncoated, has lost some of its gloss but still not broken down. Awlwood goes on at 90-100 micron wet. It goes off fast out of the can and is reckoned to being capable of taking a second coat in a day. However, it has some inherent problems. One of them is its inability to accept a gloss over gloss with out sanding, the second is tendency to trap dirt. The vast product information says to put one primer and 8 coats over the top, then leave it for 4 years and don't touch it, then sand it and put another 2 coats over the top of it, leave it for a another 4 years and then strip the whole system. So Awlgrip are aware of these problems but what they don't tell you is that because it is a single pack polyurethane you can't get it off with a heat gun so you have to sand the whole job back to wood again every 8 years. Other varnishes you can always touch up.

Sikkens is not a bad product. It is a product that is higher on the scale than others but I don't know much about it.

Preparation

We are going from restoration to maintenance when we go from strip and straightens being required to just maintenance varnish being required. Maintenance varnish is when we give it a sand and a couple of coats. To repair a blow out is to sand back to wood in a localised area using 80 grade paper, but do only maintenance varnishing outside and up to the sanded area. Then varnish inside the line of where you have sanded the blow out until you have the same varnish

thickness as the surrounding area minus 2 coats. Then sand the whole thing and put 2 coats over the whole lot. You will get repairs that will blend in perfectly but don't put more than 20% thinners in the varnish.



In preparing for a standard varnish job, first of all clean the surface and tape it. Note that tape only lasts for a maximum of 2 weeks and through 5 coats; then re-tape. Sand with 320 or 400 grade paper. You don't have to sand with the grain with 400 grade paper but if you are doing strip and straighten with 80 grade paper, go with the grain with a sanding block - either shop or home made. Cleaning the job surfaces is really important. Final coats we wash the job down the night before. We will sand, and vacuum clean; then wash the deck down and leave it until the next morning. We then apply the varnish and that has to be done so the humidity doesn't affect it.

If you want good varnish work the cleaning has to be crazy. If you aim for 60% clean you will get 40%, 70% you will get 50%, 100% you will get 80% so you will have to go for 100% even to get 80%. Problems with pinholes etc, we will use wax and grease remover and tack cloth as we go. Try to varnish off the job as much as possible; ie try to design components so they can be removed and varnished at home.

Technique

It is very important for decent varnish work, to work out how much you can varnish and how you can keep a wet edge to enable you to continue across the job. It is a workable thing but in a large area and if there are no joins in the job, the only way is to roll the varnish on with a fine roller and tip it off with a Purdy brush. This will work on larger jobs. Where joins in the job exist, only work in panel sizes to keep a wet edge. So wet edge planning is important and always give yourself stop areas. A lot of the technique is about controlling the product and working the product effectively. Using tung-oil you will only get one coat a day, for single pack polyurethanes you will get two coats a day.



When brushing onto the job, work from the right hand side of the job. Start with one brush stroke from right to left. Then follow on with subsequent brush strokes from left to right up to the wet edge of the stroke before. Use one side of the brush only and don't brush it backwards and forwards across the job as is commonly the practice - just single one way brush strokes."



A big thank you to Ian for such a well prepared and delivered presentation and for so willingly sharing his knowledge gained through so many years of applying varnish to such a high quality standard and to Ian's wife, also a skilled artisan, who supported him on the night.

[For full presentation refer to the audio file on the ABBA web site](#)

ALL STEAMED UP FOR CHRISTMAS

Our Christmas gathering this year was on the Maylands Foreshore Reserve where ABBA Member Mick O'Shea kindly provided a 'working exhibit' of his two steam river launches in conjunction with the usual BBQ fare and drinks which Peter Russell and Michael Wade arranged.

On the day, it was decided to launch and steam up the larger launch, JANICE LORRAINE , and to leave EMMAMADELINE on her trailer as a static exhibit. This created a great deal of attention in the car park.



EMMAMADELINE looking a real picture on her trailer in the car park.



JANICE LORRAINE steaming up and ready to go.



Mick O'Shea in the engine room with helpers Alex Heath (stoker) and Bruce Cadee (overseer!)





All aboard ABBA — members enjoying the journey with JANICE LORRAINE under full steam up the river. And there is even a steam whistle above the roof.





Members enjoyed themselves on board and when their turn at a ride was over there was a great lunch to enjoy ashore.



I'm sure all members will agree that this was a most memorable Christmas gathering and we thank Mick and his team of helpers for all their work in getting the launches to the river and providing this experience for our members. Thanks also to Peter and Mike for once again arranging the food and drinks and providing the BBQ and associated equipment required to make this such a successful event. We hope everyone had a very happy Christmas and that the new year has now started out well for all.

ADMINISTRATION NOTES

ABBA COMMITTEE

| | | |
|-------------------|-----------------|--------------|
| President | Ken Potts | 0421 178 991 |
| Sec/Treasurer | Bruce Cadee | 9259 0844 |
| Newsletter Editor | Chris Davis | 9387 5042 |
| Event Coordinator | Damien Bourke | 9249 9439 |
| Library | Rosemary Nayler | 9455 1470 |
| General Committee | Rob Bingham | 9246 0202 |
| | Ed Essers | 0406 050 989 |
| | Neil McKenzie | 0424 533 063 |

FEBRUARY MEETING

Our next Technical Meeting will be held on Wednesday 7 February in the Heritage Room at the South of Perth Yacht Club. 7:30 pm for an 8:00 pm start.

Our speaker is the Hon. James (Jim) McGinty. Following a long career in politics which culminated in a period as the Attorney General of Western Australia, Jim, among other things, is now a volunteer with Fremantle Sea Rescue Group. I'm sure his presentation on aspects of Sea Rescue will both enlighten and entertain us.

All welcome to attend.

MARCH TOOLBOX VISIT

The next Toolbox will be a visit to Yacht Grot at 57 Queen Victoria Street, Fremantle. Our host, Trevor, has kindly offered to accommodate this event after closing time on Saturday 10th March from 12.30pm onwards.

Please note the earlier start time and that that this is not the usual first Saturday of the month.

Please stay tuned for further advice closer to this March date.

OTHER ADMIN NOTES

Risk Management at ABBA Events

ABBA Members and friends are reminded of the risks that are associated with the environment that prevails at many ABBA events, particularly at the normal Toolbox visits. Whilst ABBA has recently taken out appropriate insurance cover, the Association's primary concerns are for the wellbeing of those who attend such events. All attendees are reminded that their safety is best managed by their own attention to the risks that prevail for them at each ABBA event.

For Sale—Jarrah Plank 28ft Yacht

The Voyager class yacht 'Brunette' built by Arthur Bishop in 1952 is for sale. This boat is in sound condition but needs some TLC and would make an excellent small project for any member seeking a good value project that requires only a relatively small amount of work to bring her back to being an 'eye catcher'. See the flyer and details issued with this newsletter.

ADMINISTRATION NOTES (Cont'd)

ABBA LOGO

Members are reminded that Bruce Cadee has made arrangements with Shaun Luong of Image Embroidery at 26 Tulloch Way, Canning Vale (Phone 9456 2324 Mobile 0403 250 389) for an embroidered ABBA logo. The logo can be applied to your own clothing (assuming it can be accommodated in their equipment) or to shirts, caps or hats purchased through Image Embroidery. Feel free to call in on Shaun to look at the limited range of clothing he has on site or visit the following web sites to choose your preferred style, size and colours. The weblinks below are only examples of the wide range available. Half chest measurements are included on the web sites to help ensure you select the correct size. Ladies styles are also available.

Clothing (excluding Logos)

Style 1300 – Aussie Pacific Mens Murray Polo, Navy/White/Ashe or White/Navy/Ashe - **\$20.00 + GST each**

Weblink: http://www.aussiepacific.com.au/the-murray-polo-navy-white-s?color=Navy%2FWhite%2FAshe&primary_color=Navy&secondary_color=White

Style 1304 – Aussie Pacific Mens Eureka Polo, Navy/White/Ashe or White/Navy/Ashe - **\$21.00 + GST each**

Weblink: http://www.aussiepacific.com.au/mens/polos/eureka-polo-sky-navy-s?color=Sky%2FNavy%2FAshe&primary_color=Sky&secondary_color=Navy

Hats/Caps (excluding Logos)

Style 4199 – Headwear Brushed Heavy Cotton Cap, White/Navy (many other colours available too) - **\$6.50 + GST each** **Weblink:** <http://au.headwear.com.au/productDetails.cfm?&prodID=53&prodCatID=2&pageNumber=1>

(Also refer poly/cotton legionnaires hats Styles 4057 or 4126 for maximum sun protection under website sub heading 'Hats, Visor & Beanies' <http://au.headwear.com.au/productList.cfm?&pCategoryID=7>)

Style 4199 – Headwear Brushed Heavy Cotton Cap, White/Navy (many other colours available too) - **\$6.50 + GST each (includes poly/cotton legionnaires hats for maximum sun protection under website sub heading 'Hats, Visor & Beanies')**

Weblink:

Style 4223 – Brushed Sports Twill Bucket Hat, White/Navy (many other colours available too) - **\$8.00 + GST each**

Weblink: <http://au.headwear.com.au/productList.cfm?&pCategoryID=7&page=2>

To make your annual membership even more value for money, ABBA will pay for up to 2 logos per financial year to be applied to your items of clothing. The current cost to ABBA is \$7.15 per logo. There is no intention for this to be an ABBA uniform so the choice of style and colour is totally yours. If you are seen wearing the logo while building, working on or using your boat or anywhere for that matter it might get people asking questions and wanting to join our association. You are free to deal direct with Image Embroidery but please ensure you get an itemised invoice showing a separate price for the logo and present this to Bruce Cadee for reimbursement. Bruce Cadee is happy to take orders and liaise with Image Embroidery if you so wish.