AMATEUR BOAT BUILDERS' ASSOCIATION

MAY/JUNE '03

**ABBA COMMITTEE**

| | | | |
|---|---|---|---|
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Contact any of these four people for clarification of association activities.

## SAILS, SPARS, EVERYTHING

On Tuesday, 25th March, we changed our regular venue from RPYC to visit Rolly Tasker Sails in North Fremantle to see how a large sail loft works. The change was suggested by our host, Steve Hartley, and the reason became obvious almost the minute we stepped through the front door. He couldn't have transported more than one per cent of what we saw to another venue, so it was the best thing, really. In effect we got a second Toolbox Visit. I've heard of at least one person who was confused by the change and missed out, for which we apologise. The change was advertised in this newsletter but Non-members coming straight off the internet would miss out unless they contacted me first by phone or Email. I'm not sure how to get around this except to advise would be attenders to contact me first. This was the first meeting outside our regular venue since The 12 Volt Shop and no further such excursions are planned, but decisions often have to be made fairly late in the bi-monthly period.

Steve introduced himself as Second in command to Barry Tasker, Don Kyle (who earlier spoke to us about rigging) having retired last Xmas. It sounds as if Rolly, secure in his Mandurah retirement, makes frequent visits, too. Things have come a long way since Rolly made his first suit of Sharpie sails on his Mum's sewing machine, back in the fifties, and this became evident almost as soon as we walked through the front door.

We entered the loft proper first, and this is a huge area. I didn't think about it at the time, but it must be about 50m by 30m, with about four floor level sewing machines of different types (for different stages in the sailmaking) - the operator works in a hole in the floor. To the left was a gigantic plotting and cutting table. this measures about 8 or 10m by 4m. This is traversed by a 4m cross arm with the cutting head on it allowing movement in two dimensions controlled by computer. It's like a gigantic drafting machine, really. The actual cutting is

achieved with a super sharp wheel, like a pizza cutter, Steve said. I know Olfa, the trimming knife brand, make a small, hand held cutter on the same principle - it holds its edge for ages and doesn't drag the material being cut. Some stationery guillotines work the same way. Cloth to be cut is held in place by under-table suction, incidentally. Unfortunately, the table was not working during the visit due to overheating problems, but it cuts out all the panels for a sail from a computer programme which is first designed by Steve for each sail in question, and it even arranges the panels beforehand to minimise wastage of the cloth.

After the cutting, the panels are stuck together using double-sided tape available in different widths and levels of stickiness and the sail is then suspended horizontally for a visual check. Only then does stitching begin. Due to the adhesive of the double-sided tape, sewing machines are stripped and cleaned after every day's work. Eventually tabling and other reinforcements are stitched in on other machines and eyelets, etc, fitted.

A wide range of synthetic cloths are held in stock, more than the rest of the WA industry combined, we were told. Dacron, the oldest and softest material, is still used for cruising sails but it's regarded as too stretchy for racing. Next comes Pentex and we saw some sails for a Queensland 60 footer half made in this material. Spectra is even more resistant to stretch and so goes well in mainsail leaches, etc, while if one is really serious about rigidity there's carbon and Kevlar cloths. Kevlar used to be very susceptible to creasing and U.V. light but is now available in Aluma Shield which is much more forgiving. In general the strength of modern materials is amazing. For example, the clews of mainsails are currently held down with triple-banded straps made of Velcro and sailcloth - no metal trolleys in the boom, or anything.

Since we were looking at fairly large sails, someone asked what were the smallest sizes made at the loft. Steve replied that they would happily go down to Mudlarks but Taskers were not disappointed if such business went to smaller sailmakers. They are quite happy with larger sails especially when the customers are people like Jon Sanders, Kay Cottee and David Dicks.

To fill out the programme the loft also makes those shade "sails" you see everywhere and this job alone occupies three employees full time while five make the real things. Although large, this loft is still producing sails on an individual basis and so doesn't even try to compete with the Tasker loft in Thailand which mass-produces sails by the hundred for the US market. There they just make the sails to the dimensions specified and mail them out - end of story. Here, someone from Taskers, usually Steve, will actually go down to the water and show the customer how to set and tension his sails if called upon; good old-fashioned after sales service. They'll also make oddball shapes such as gaff-rigged sails and so on.

Then it was on to the plastic moulding shop. This was occupied by a variety of injection moulding machines patiently moulding from toolmaker-made steel dies from the raw material which comes as nylon or plastic granules. The machines work automatically, 24 hours a day, which is just as well because they weren't as fast as I'd expected. Hand finishing is required to remove moulding flashes, etc, before packaging and marketing under the labels of Pacific Nylon Plastics and Ronstan. They also make such items as door catches for Bunnings, tent fittings, and components for catamaran seats for the Henderson shipbuilding industry. The plastic can be coloured (often black) and may have fibres added for extra strength. There must be hundreds of dies kept on hand.

The last port of call was the spar making section. Here, masts of up to 36 metres can be assembled. They are all alloy, neither wood nor carbon being handled at the moment (I guess one is too old fashioned, the other too advanced and individual). *(cont on back page)*

# ANOTHER SORT OF DRAGON BOAT

On Saturday, April 5 we visited another Austal Ships subsidiary, Image Marine, where John McKillop is a naval architect. There they're building not one but two 41m catamarans for the Hong Kong harbour day tourism trade. Whoever thought that the Chinese takeover of Hong Kong would dampen the tourist business must have got it wrong, because these two vessels are pretty big for just looking at the harbour - about 600 passengers each. One cat is about four weeks ahead of the other and neither is very close to finished at this stage, so we got a good idea of construction techniques on this visit.

Externally the boats are identical, with only some minor differences in seating arrangements planned. Both are a fair way short of having seats fitted yet, however. Both are upright and the hulls fully plated, with the superstructure virtually complete but I was surprised to learn that they start out upside down, like any common dinghy. It seems all the hull components are cut before hand from computer information, the decks laid down inverted on the floor and the frames stood up on the decks. Stringers are welded in where necessary and the plating applied. Only then are the hulls turned over by crane. I guess the maximum beam, which can be pretty big in cats, is limited by the roof height. These vessels didn't seem especially beamy for their 41m length. For their 16 knots operational speed these hulls are very fine in the bows. In fact, internal access for welding frames to skin in this area is non-existent, so numerous slots are cut through the skin so such welding can take place from the outside. The slots are not fully filled and faired over because at about 2" by 1/2", although they look big close up, they're of no significant size on a 41m hull. (they're underwater, of course)

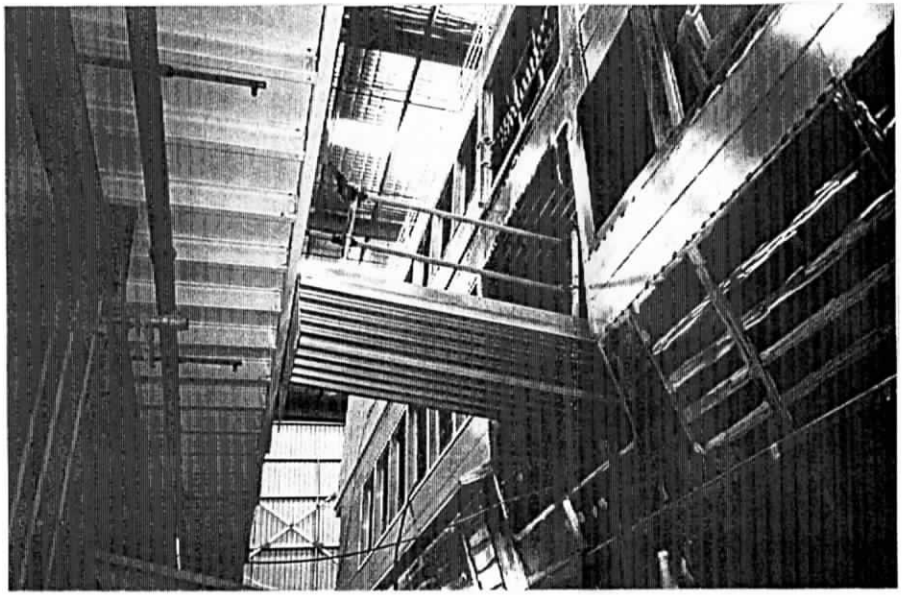
Once turned over the superstructure, which dominates these particular boats, commences. This includes two passenger accommodation decks, topped by a bridgedeck. Since the basic hull freeboard is not huge you can see why I use the word "dominates". And what is going to dominate that little lot is a gigantic Chinese dragon in fibreglass strung above the top deck (and floodlit at night). Image recently took delivery of the dragons, shipped from Hong Kong, but they're still to be unpacked.

The accommodation areas will be fully air conditioned and ducting on the more advanced hull is going in now. Compressors were in place ahead of where the engines will be, as were various deck-mounted condensers. The engines themselves were still to come and they will be lowered in through "soft" deck access, which is fortunately available through an open air promenade section aft. No cutting holes in the side as in the case of the elegant motor yachts. The engines are to go a fair way aft, driving five bladed propellers through 2.5 : 1 gearboxes.

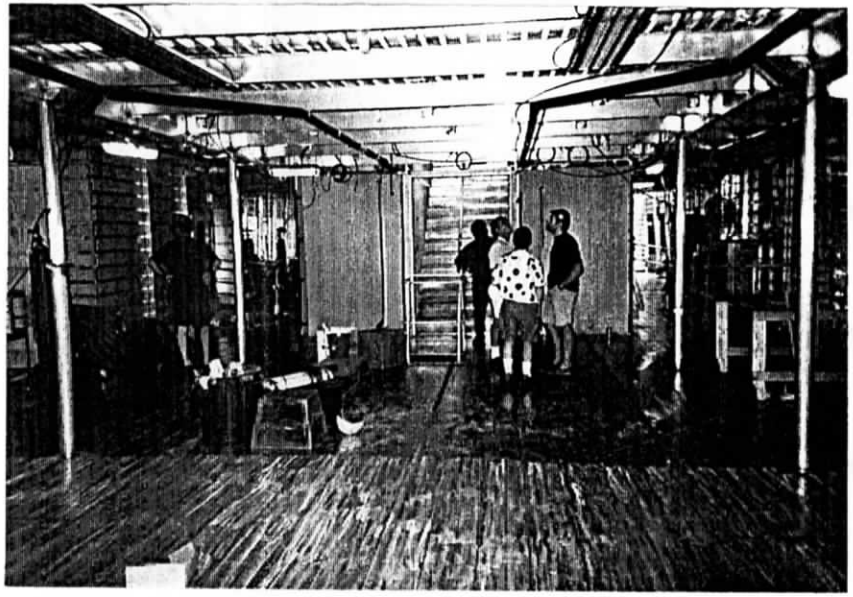
While down below we asked about holding tanks for this and that and were told that the harbour authorities are not fussed about untreated sewage going overside, but are very picky about oil. I'd have thought concern would be shown in both areas. Another area where they are very picky is handrails. Image had already completed handrails on the first hull to international standards or better, (verticals about 1.5m apart, with horizontals spaced closer than the international maximum) when H.K. authorities visited and specified their own code which includes verticals every 200mm! Now Image has to decide whether to cut the existing rails off, at their own expense, or try to add extra verticals. Neither alternative is very pleasant.

What <u>was</u> very pleasant was our visit to Image's worksite. We owe a big thank you to John, who arranged and conducted the tour, and to Geoff who once again brought all the necessities for a very pleasant afternoon tea. Thanks very much, fellas.

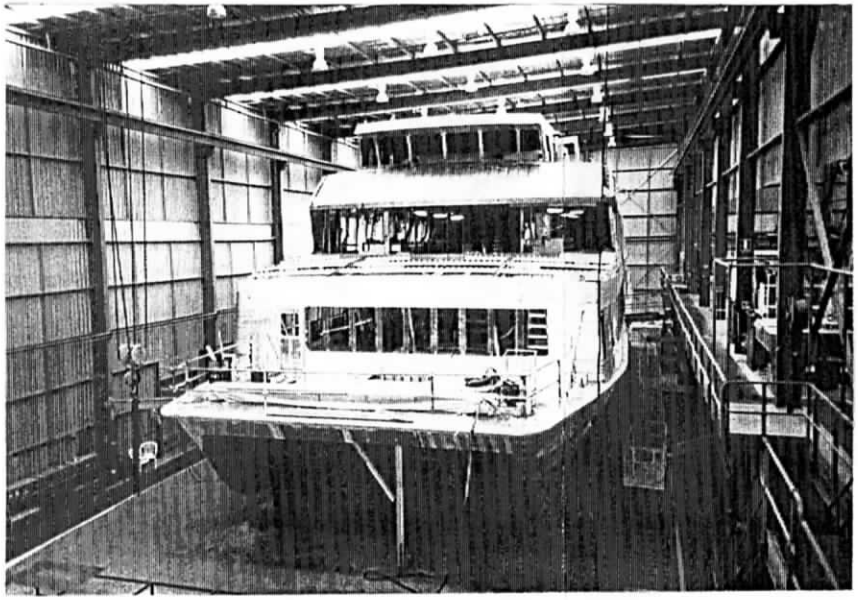
# H-K FERRIES AT IMAGE MARINE



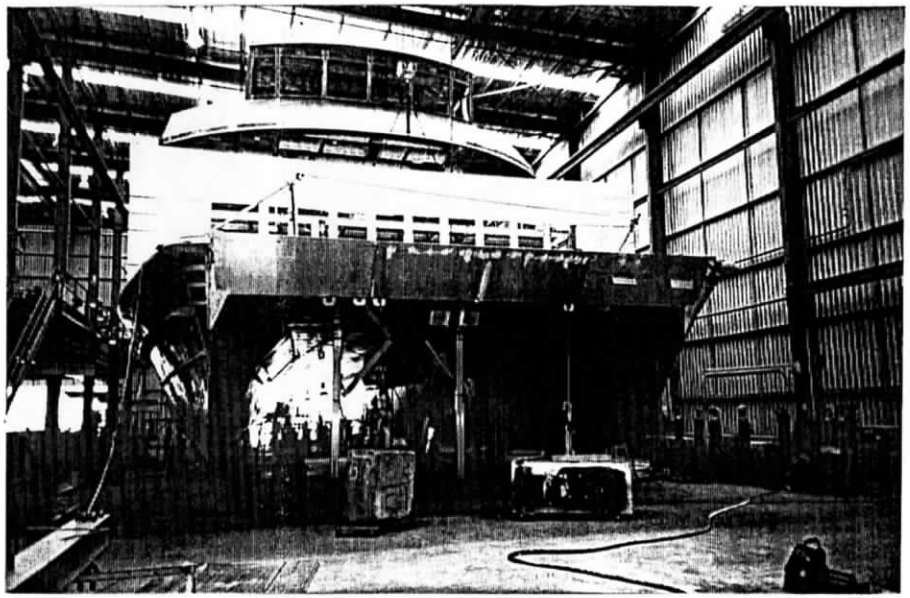
We entered the ferry (on right) via this first floor gangway.
She's pretty high!



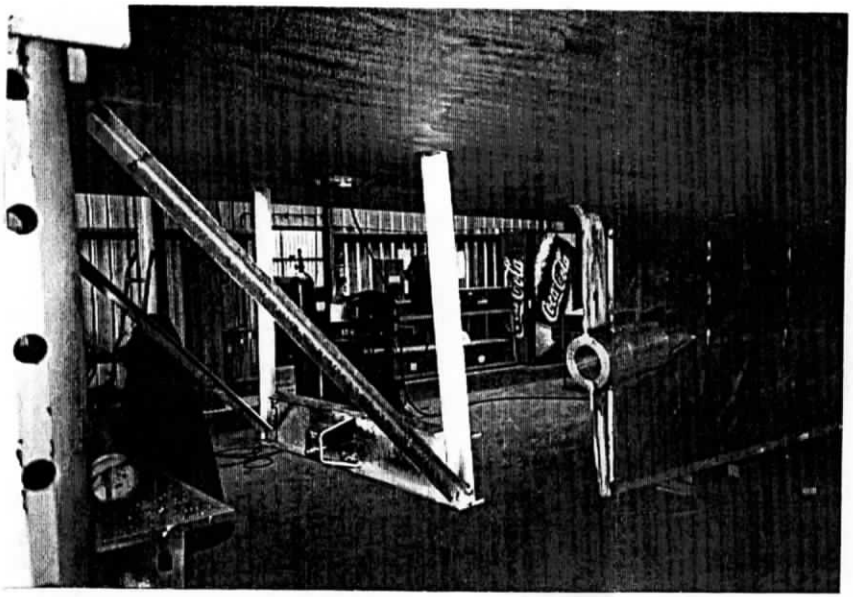
The main saloon deck awaits furniture.
Note generous headroom.



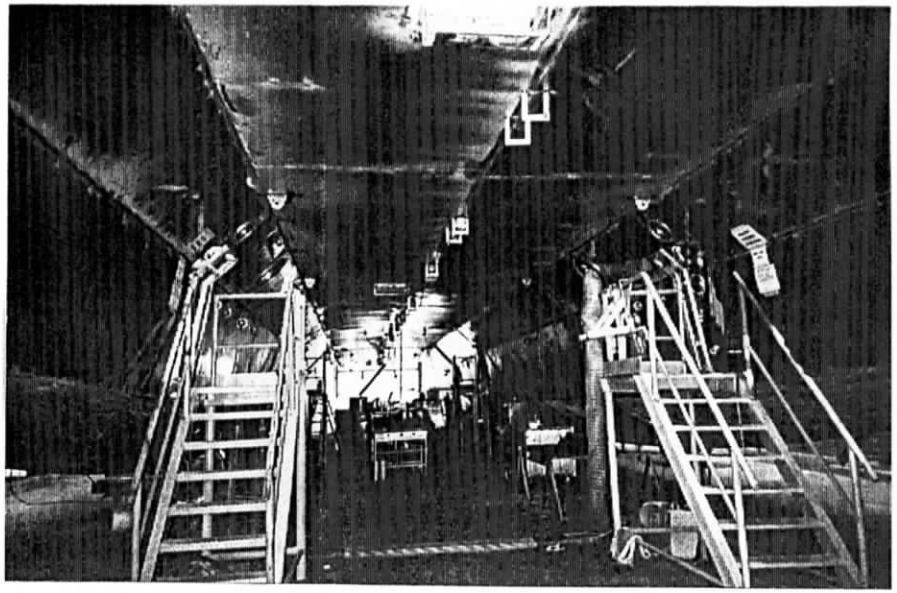
Superstructure of three decks dwarfs the hulls in this shot.



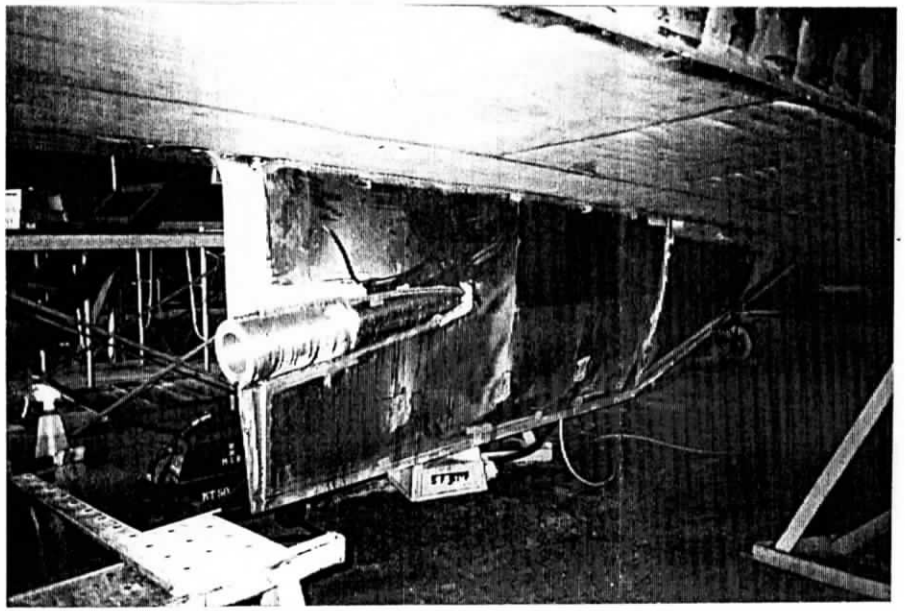
The hulls are more prominent from this angle,
but there's still not a lot of them against the superstructure.



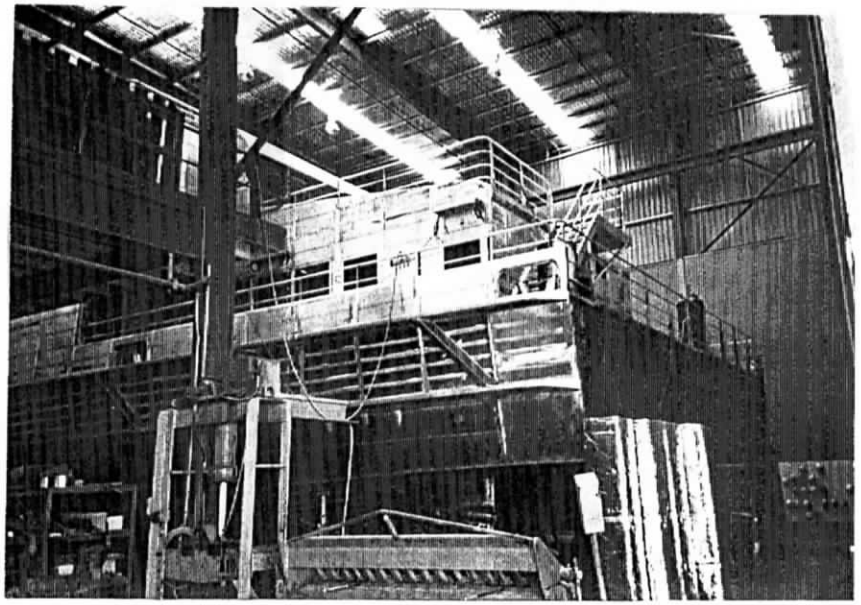
A temporary frame tacked to the bottom to hold a wire while aligning the stern tube - same for any small power boat.



Between the two hulls. Note temporary fittings welded to underdeck for construction - to be ground off later.



Stern tube and skeg detail, another area where external welding slots are needed.



The stern area of one of the ferries with some insulated panels on the ground. Looks pretty boxy.

*(continued from page 2)*

Big masts are made up in two halves, glued and rivetted together, while smaller ones come from a single extrusion. About thirty different Tasker dies are held in Sydney where the extrusions are made by Capril. Tapered sections are achieved by cutting darts in each side and welding up. I didn't think to ask about the effect of welding heat on the temper of the alloy, but when we home-made Moth masts in the '70s we had to get the masts re-tempered. I don't know if we'd have large enough facilities for Tasker masts in WA. Apparently they do a fair bit of spar-making for home builders, because they often end up storing masts for some time before builders get their hulls finished! Where are all these people, why aren't they members?

I could go on but we're running out of space and that's the most important bits. There's just room to warmly thank Steve for showing us around the loft and associated workshops. It was a very interesting visit and well worth the trip to North Freo

## ADMINISTRATION NOTES

**27th May, Evening Meeting**

We will be addressed by Wayne Spence of Summit Chemicals, on the subject of composite materials. He will be able to tell us all about epoxies and the materials you can put in them. Even the most old-fashioned wooden boat builders are using epoxy these days, grateful for the extended life it bestows on their creations. And for lightweight and difficult shapes you can't go past fibreglass, Kevlar and carbon, so this should be a very informative discussion. That's at **RPYC Junior Clubhouse, 7.30 for 8.00pm**.

**Saturday, 7th June**,

**Toolbox Visit, 2pm**. This will be to the workshop of **Dave Dyson at 124 Westminster St, Vic Park**. It must be a big workshop (which will be something to see on a small Vic Park block) because he's assembling a Radford 45' cruising yacht there. Dave had the hull welded up in Queensland and acted as escort vehicle to the truck bringing it here overland. Now he's doing the rest in his backyard. The hull has been primed and insulated and fitting out should have commenced by the time we visit. Although no engine is in place yet, Dave tells me he will have two motors, a big one for propulsion and a small, three cylinder Kubota for charging batteries, etc, during extended live-aboards while not actually sailing. Sounds like he's going to take his cruising in a serious yet very relaxed manner. Dave would like to point out that the site is not set up for visits by large numbers of the mug public and he won't be responsible for any injuries - so we all visit at **OUR OWN RISK**, and are expected to exercise due caution, especially when climbing steps, etc.

**ONE WEBSITE**:

Try www.boatlocaters.com.au A boat broker who's advertising a 36' jarrah planked yacht, cheap.

**LIBRARY**: This month's books brought along will be on painting and finishing.

**CALENDAR**:

**Tuesday 27 May**, at RPYC JUNIOR CLUB, 7.30 for 8 pm. Wayne Spence talks on composite materials.

**Saturday 7 June, 2pm**. Toolbox Visit to 124 Westminster St, East Vic Pk to see Dave Dyson's Radford 45.

**Monday 16 June** Committee Meeting at ?