



VOL. V

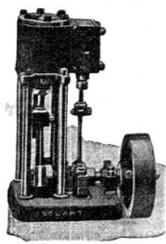
NO. II

# NEWSLETTER

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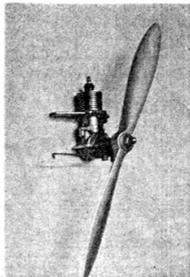
**Ensign's report** 1st February 2012

Does anyone remember the Model Dockyard, at 216 Swanston Street, Melbourne? I first came to know them during my student days at the RMIT in 1980, and could frequently be found in their basement seeking out gears or motors for my design projects. Sadly, they closed in 1984, a year after I graduated; I've sometimes wondered if the two events were related. The advertisement below is from 1947.



## THE MODEL DOCKYARD

AUSTRALIA'S MODEL EMPORIUM  
(Not a Toy Shop)  
Build Your Own Scale Models.  
Blue Prints, Books, Castings, Kits and  
Equipment, Model Aeroplanes, Railways,  
Ships and Gallions.  
Steam, Petrol and Diesel Engines.  
Boilers, Pumps, Electric Motors.  
Yachts, Spindizzies and Speed Boats.



Catalogues Available.  
Aeroplanes & Parts. . . . . 3d  
Price . . . . . 3d  
Petrol Engines & Parts. . . . . 3d  
Price . . . . . 3d  
Steam Engines & Fittings. Price . . . . . 3d  
Blue Print List . . . . . 3d  
New lists in preparation.  
Model Railways and  
Equipment . . . . . 3d  
Ship Fittings and parts 3d  
Set of Catalogues. Price 1/-



The Model Dockyard (Only Address) 216 SWANSTON ST., MELBOURNE, C.1, VIC.

## Model portraits -2

Peter and Clare's steam-powered open launch, the *Merri Queen*, forms our subject this month. Best keep well clear, for her pilot appears to be more concerned with an outbreak of indigestion (perhaps brought on by that oil-soaked lunch box) than keeping a grip on the tiller!



## Brushless motors 101

Q What are brushless motors?

A They are a new type of motor that uses an electronic circuit built into the speed controller to replace the commutator and brushes of a conventional 'brushed' motor.

*The inside of a brushless motor - this is an outrunner*



Q What's so good about that?

A It makes them smaller and lighter than a brushed motor of the same power, or more powerful for a given size/weight.

Q Anything else?

A They produce virtually no interference, have no brushes to wear out, and tend to be more efficient.

Q So what's the bad news?

A They can't be made to run as slowly as a brushed motor, can be more expensive, and won't run at all without a brushless speed controller (one per motor required).

Q Should I be using them?

A Definitely yes, if you have a performance model.

Q What about in scale models?

A Maybe, if you can benefit from the small size/weight, need to drive a big prop or just want to gain brushless experience.

Q What types are there?

A 'Inrunners' and 'Outrunners', referring to how they are built inside. Outrunners have more torque and can drive a larger prop, so they are better for most model boats.



*Two typical brushless motor controllers, 50A unit (top) and 27A unit (bottom)*

Q What's the KV rating?

A It's a measure of how fast the motor spins off-load, measured in thousands of RPM per volt of applied power.

Q Don't I need to use lithium batteries?

A No, you can use any type of battery. If you do use a lithium battery, make sure the brushless motor controller (BMC) is a programmable type to provide low voltage cut-off.

Q How do I chose the right motor?

A Speak to a BMBG member who's been using them for a while. Most hobby shops can only advise aeromodellers.

Q I notice they have three wires. How are these connected?

A Connect them any way to the three wires from the BMC and reverse any two if the motor goes the wrong way.

Q Can I use any brushless speed controller?

A Make sure you get one with reverse for a model boat or car, aircraft types are forward only. As with any speed controller, make sure it has a sufficient current rating.