



# PROP TORQUE

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| <b>Committee</b>   | Andrew McEntyre | 6384 1048 |

L.M.A.C., PO Box 1204, Launceston Tas. 7250

Our "P.P.P.P." (it means President Pete Perfect Pattern Pilot) We can now just call him P5 for short. It saves all those titles doesn't it. Read the CD report and you'll see why. This is an earlier photo with his partly undressed (no sign writing) "Carrera" now officially known as the "Rosevears Rocket".



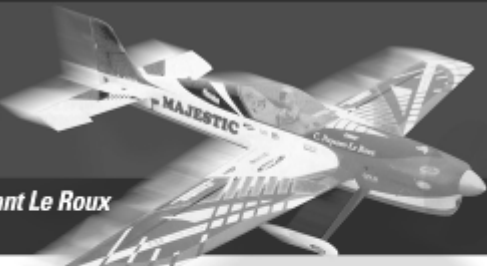
Official Newsletter of the...  
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VOLUME 12

# JULY

# 2002

# Super Autumn Specials

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## POWER KITS



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|-----------------------|--------|
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|        |  |
|--------|--|
| DA 100 |  |
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## ENGINES



### 2 STROKE

|               |        |
|---------------|--------|
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| OS 46FX       | \$209  |
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|                |       |
|----------------|-------|
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| MAGNUM 52      | \$278 |
| MAGNUM 54      | \$315 |
| YS 53          | \$440 |
| OS 52          | \$445 |
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| OS 120 SIII    | \$840 |
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|------------|--------|
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|         |       |
|---------|-------|
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Perth RC Models and Hobbies 454 Newcastle Street, West Perth, WA 6005



**CAPTAIN'S REPORT**  
**Peter Kidson (03) 6394 4380**  
**p.kidson@microtech.com.au**

Hello once again to all.

This month has seen some unwelcome news from our governing body the MAAA concerning insurance premiums for this coming financial year. I'm sure Gerry will fill us all in on the details.

We have been asked by some members of the club for a large model inspector so some of the larger models can be flown. I have applied through the normal channels and am waiting a reply.

It may be of interest to some of you to find out we now have a change in the rules of height at our club. The height has been 300 feet for a long time but as of the first of July the height has been raised to 400 feet. Not much I grant you but an extra 100 feet is 100 feet. The ruling has been changed by CASA. Another ruling change by CASA is the one about the weight limits of our models. CASA has raised the limit to 25 kg's before needing a permit, however this does not mean at this time we can go out and fly these huge models as the MAAA have not yet made a decision as to whether they will follow suit. Just because CASA raise their limit it does not mean the MAAA have automatically to raise ours. We'll keep you all informed as to what happens in the near future.

The competition year so far has seen good turn out's at the few we've held. Keep it up. You never know you may just win one. Keep your eye on the contest calendar to see which event takes your fancy and simply enter.

I mentioned in the last newsletter I would keep you updated on a jet engine being built by a friend of mine, well at this point not much has happened, but it will so be patient. As soon as I have something to write I'll put pen to paper.



## Prop Torque..... July 2002

We are getting to the stage at the club house where a working bee is needed. Maybe next month. Usual things wood cutting, cleaning etc. Now I know you all want to help. I'll let you know when.

As I'm sure Gerry will mention Railex in his column I won't go on about it other than to say we have decided we should take part this year. We will however need volunteers to give a little hand. If you are interested please let Geoff Hays know as he has offered to organise things for us. It should not be left to one person.

That's it from me for this month so once again.  
I'll see you at the field...

*Pete...*



Club Day July 6—"P5" firing his "now dressed" *Rosevears Rocket* into life for another practice round before the next comp. Merv C and John L (with trainee Guide dog) having a chin wag.



## SECRETARY'S REPORT

Gerry de Groot

Ph: 0417 536 200 (BH) or 6369 5284 AH

[gdegroot@vision.net.au](mailto:gdegroot@vision.net.au)

Hello to all

Here are some snippets from the last committee meeting, held on 8 July, 2002:

- In last month's column, I said that by the time you read the newsletter, this year's affiliation fees would have been paid to the TMAA/MAAA. It did not happen quite that smoothly! At the last minute, when your secretary was about to mail the cheque, the MAAA issued an urgent notice advising another rise in insurance premiums for public liability. It is worth noting that the TMAA fees I wrote about in March (and which the Committee used to calculate the new subscription rate for 2002/2003) was based on the MAAA's *estimate* only, since no insurance company would commit itself to a firm quote. When the MAAA finally got a firm quote at the "eleventh hour" it was about \$114,000 more than the original budget estimate. This was not the MAAA's fault. It was because of the ever-deepening insurance crisis, causing all companies to 'run scared' of indemnifying any activity, however benign. As a result, the MAAA has had to levy every member another \$13.50. Clubs are paying \$10 of this, with the TMAA absorbing the balance of \$3.50.
- The Committee decided that it would not be fair to ask members for the extra \$10 this year. Instead the rise will be absorbed from LMAC reserves. However, the Committee will critically review subscriptions for all grades of membership early next year. This whole business is a good illustration of why our club needs to exercise prudent financial management, so that there is money "in the kitty" when it is needed. It also illustrates why we should all support the fund-raising events and activities. LMAC, *your* club, depends on *your* financial support to keep things running smoothly. Remember this when

*(Continued on page 6)*



## Prop Torque..... July 2002

you come to club days and as you buy your lunch and drinks.

- The committee has decided that LMAC will participate in Railex in November. This decision was based very largely on the generous offer from Geoff Hays to act as coordinator. However, it should be clearly remembered that while Geoff has offered to coordinate, he cannot do this job on his own; he will require support from members. When he asks for your help, please be generous with your support.
- I had hoped to publish the results of the member survey this month. Now that will have to wait until next time, mainly because of the unexpected flurry of activity caused by the insurance and fees crisis.

That's all for now. Until next time, happy flying.  
Gerry de Groot



The cockpit of Keith Drew's (from Hobart) masterpiece showing an extraordinary amount of detail. Keith often pays us a visit when travelling "up North".

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# From the Editors



George & Kerry Carnie  
"Glenhaven" 50-62 Fairtlough St Perth 7300  
e-mail: [gcarnie@tassie.net.au](mailto:gcarnie@tassie.net.au)

Hello to all.

We've managed to fill another magazine thanks to the regular contributors but it's not always easy. I know we've said this before, but if you have any articles, building tips or just to share a joke or some anecdote from the field..... then please send them in.

A new list of members will be included in this magazine. Any additions during the year will be advised in the magazine so you can add to the list. I find these a handy reference for contacting members. Sometimes for a chat or a bit of aeromodelling advice. A copy will also be posted in the clubhouse.

We've also put together a new member form. These have been distributed to the hobby shops in town. Copies are available from us and we'll also leave some at the clubhouse. Do you know any potential members? A lot of us started this hobby as youths but we don't see any around at the moment. We need to encourage the young ones into our hobby. We have instructors—with no newcomers to instruct. As stated elsewhere in the magazine, the Committee has agreed to provide a stand this year at Railex. This is an ideal opportunity to try and generate some awareness of our club and what it has to offer. Hopefully new members will also result.

The Committee has put together a competition rule book—no more debates at the flying field. If you would like a copy of this excellent © 16 page publication, give Kerry or George a call or see us at the field. A nominal fee will be charged to cover publications costs. If you are interested in competitions, this is an excellent aid to you preparation.

Until next month..

*Put a spark in your life—Fly Electric*  
*George & Kerry*



## Contest Directors Report

Well winter is truly with us now and we have to take the good with the bad (but we do need the rain don't we). We have managed to have 2 contests this month due to bad weather last month, the 7 cell glider event was held on July 6<sup>th</sup> Club Day and we were grateful for the fine day.

Because it was quite good early in the morning and we had three contestants ready to go we made an early start and we were all finished by lunchtime but we only had the 3 starters so we did 5 rounds quite easily. It was just as well as the pm was not as good as the am weather wise.

Peter Haworth, Greg Robertson and George Carnie all did very well, scores for each round were incredibly close on times and the final scores ended up only 107 points between 1<sup>st</sup> place and 3<sup>rd</sup> place.

It was a good contest with no mishaps that I was aware of and lunch in the club house with the fire going and the kettle on the hob was really great.  
Scores are as follows –

| <b>Contest Scores 2002-2003</b>        |              |               |                 |
|--|--------------|---------------|-----------------|
| <b>7 Cell Glider<br/>6th July 2002</b> |              |               |                 |
| <b>Contestant</b>                      | <b>Score</b> | <b>Points</b> | <b>Division</b> |
| Greg Robertson                         | 1217         | 110.00        | A               |
| George Carnie                          | 1188         | 110.00        | B               |
| Peter Haworth                          | 1110         | 103.43        | B               |



# Prop Torque..... July 2002



The next scheduled event was Saturday 20<sup>th</sup> but that too did not turn out well at all, so it was moved to the Sunday 21<sup>st</sup> and that was a good day to have the Pattern event. I was not able to do my duty that day due to another commitment so I gave Peter the job of organising things and he will report on that days competition in his report, but I do have the scores and they are as follows –

| <b>Contest Scores 2002-2003</b>           |              |                 |  |                 |
|---|--------------|-----------------|--|-----------------|
| <b>Pattern Contest<br/>21st July 2002</b> |              |                 |  |                 |
| <b>Contestant</b>                         | <b>Score</b> | <b>Points</b>   |  | <b>Division</b> |
| <b>Sportsman</b>                          |              |                 |  |                 |
| Kevin Hay                                 | 2865.95      | 110.00          |  | A               |
| Darril Kay                                | 2598.05      | >>>>>>>>>>>>>>> |  | N.W.A.M.        |
| Peter Thompson                            | 2146.47      | >>>>>>>>>>>>>>> |  | N.W.A.M.        |
| Andrew McEntyre                           | 1325.95      | 110.00          |  | B               |
| <b>ADVANCED</b>                           |              |                 |  |                 |
| Peter Kidson                              | 3000.00      | 110.00          |  | A               |
| <b>EXPERT</b>                             |              |                 |  |                 |
| Garry Anderson                            | 3000.00      | >>>>>>>>>>>>>>> |  | N.W.A.M.        |

Talking about Peter who took out 1<sup>st</sup> place in advanced pattern. I would also mention that he took out 1<sup>st</sup> place in advanced at the N.W.A. pattern day on May 26<sup>th</sup>, well done Pete.

Peter is striving to move to the next level which is expert and  
(Continued on page 10)



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Tasmania at the moment has only 2 contestants in each advanced and expert as far as I know. So the way N.W.A. and ourselves are concerned even if there is only 1 starter in a class we run that class as if there were more flying just the same.

I would remind you if you are into competitions and want to go for our club trophies then you do get points when you fly in another clubs contest events. But maybe you will have to let me know the details otherwise you may not get the points awarded to your running total, (so it is up to you).

The next event at our field will be a triple header so as to speak. Saturday August 17<sup>th</sup> **not** 15<sup>th</sup> as on the calendar. I made an error in the date when the calendar was set up.

The 15<sup>th</sup> is a Thursday and that I feel may not be convenient with many people but possibly it may suit the weather.

Anyhow 9am will be a free flight power scramble of 1 hour duration. Followed at 10.30 by an old timer event which basically will be a duration event, and points will be given for each flight made and whatever else we decide on the day as I do not know how many and what type of models we will have. But if you think you have a designated old timer model (that is one designed and kitted prior to 1942) then come along and we will all have fun.

Then at 1pm we will hold a scale event for scale like models. We will give a stand off scale score out of 10 for static assessment (picture of the prototype please to obtain this score) then the judges will assess out of 10 for in flight realism coupled with 5 manoeuvres of pilots choice plus take off, landing approach and landing, 7 manoeuvres in total.

A minimum of 2 flying rounds will be flown.

If the weather is not kind on the Saturday then we will try to hold it on the Sunday.

# Prop Torque..... July 2002



Please give me a ring if in doubt, I would not like to see anyone go down for nothing. My home number is 6344 1920 and my mobile number is 0408 559 806 the mobile number should reach me at the field or in transit.

Please note 0408 **not** 0508 as in last report from me. Sorry.

Well that's it for now from me.

So as always.....Happy Landings All.

*Geoff C.D.*

| <b>Contest Scores 2002-2003</b>       |                  |        |                   |                  |        |
|---------------------------------------|------------------|--------|-------------------|------------------|--------|
| <b>POINTS TOTALS After 4 Contests</b> |                  |        |                   |                  |        |
| <b>Division A</b>                     |                  |        | <b>Division B</b> |                  |        |
| Contestant                            | Contests Entered | Points | Contestant        | Contests Entered | Points |
| P. Kidson                             | 3                | 302.75 | A. McEntyre       | 2                | 203.99 |
| G. Robertson                          | 2                | 220.00 | G. Carnie         | 2                | 163.69 |
| K. Hay                                | 2                | 164.25 | D. Jacobs         | 1                | 110.00 |
|                                       |                  |        | P. Haworth        | 1                | 103.43 |
|                                       |                  |        | K. Gray           | 1                | 88.90  |
|                                       |                  |        | R. Cooper         | 1                | 29.74  |



Prop Torque..... July 2002

# **L.M.A.C. Pattern Day**

July 21st.

With Saturday being forecast as wet and possibly windy it was thought best to cancel the competition until the next day, as it states on the contest calendar. We had six pilots altogether, three from LMAC and three from NWAM. The classifications were four sportsman, one advance pilot and one expert pilot.

As Geoff was unable to make the Sunday meet, the competition had a new CD for the day and that was myself. We got off to a late start for one reason or another but start we did at about 10.30. The original plan was to fly four rounds so we could all drop the weakest one. Sportsman class was up first with all but one pilot suffering with engine problems. Sportsman is an introductory class in which new pilot's to aerobatics can try their hand and with this in mind their class is given some leeway if problems occur.

Kevin Hay was the only one of that class not to have engine trouble and he flew very well. He did however have some radio trouble with severe glitching as did Andrew McEntyre, but I'm glad to say this did not end in crashes for either one. Finally after sometime the first round was completed. Sylvia, (my wife) had turned up by now and had taken over the scoring leaving me with not much to do so into the club house, there were some onion's needing peeling for lunch.

Round 2 went sort of well with some sportsman still having engine trouble. Andrew had done a lot of work during the last 2 weeks trying to get a previously crashed plane ready for the comp He finally gave up on it and got out his trusty yellow model only to fly and have the con-rod break ending his chances of a finish or so he thought.

The food was coming on a treat. Kev came in to relieve me as it was now my turn. As there were only myself in advance and Garry Anderson from the North in expert class we decided to fly together.



Me first. I put in a poor round ending with a higher score than I thought. I had been given some good scores by the Northwest guys. They were new to scoring and so they were forgiven, (especially as it was in my favour). Garry flew next. Now Garry makes this look easy and gave us all an exhibition on flying Pattern models. To the untrained eye his flights are without error and so the judges had to really concentrate to find the few faults.

Lunch was ready. In the club house the talk was about what we could have done different with our flights and would anyone notice if Garry flew my model. Burgers were eaten, coffee was drunk and I think some wishing was also done. People were heard adding items to their Christmas list, you know, engine's, radio's, glue and one con-rod please Santa.

With lunch over it was back out the flight line and I was up first. I'd had to lean off the low end on the Carrera and as I pulled into my first maneuver the top end went lean. Managing to get through my flight my score went up slightly. Garry's turn, with it again being hard to spot the fault's.

It was time for the final round for the sportsman. We had decided to make it only three rounds because of the earlier engine problems. Kevin had said to Andrew he could borrow one of his planes. Andrew snapped up the chance and put in a blinder of a flight. That being his best round by far. The chaps from the Northwest flew well but couldn't get to Kevin who took out the sportsman and so he should as he's State Champion. I flew reasonable in my final round having tuned my OS better and Garry of course never put a foot wrong.

The results were,  
**Sportsman,**  
Kevin Hay (LMAC) First,  
Darril Kay (NW) Second,  
Peter Thompson (NW) Third.

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*(Continued from page 13)*

**Advanced,**  
Peter Kidson (LMAC) First.

**Expert,**  
Garry Anderson.

Garry by the way managed to get his final promotional point which has now put him into F3a class. Thanks to all competitor's for turning up and having a go. Thanks to Sylv for scoring, (I was the only one to get a kiss for winning), and thanks to Merv Cameron for judging, calling and helping with the clearing up of the club house. Thanks also to Robyn Anderson for her help in judging and helping with scoresheet supplies.

Over all everyone seemed to enjoy themselves and were happy with the results. We at LMAC did what we could to make the comp happen and run smoothly. My only gripe for the day was that not one member from our club turned up to help support us. It seems to me that if we are to hold competitions of any sort they are only going to succeed with your help and support.

*Pete Kidson*

# Electrasite

## **Motors (Brushless type)**

Brushless motors as their name suggests, do not have brushes and commutators. They are basically a casing with front and rear bearing housings, a rotating magnet and a fixed coil assembly around the magnet and that's it! The motor has three terminals (for 3-phase operation) and the controller does all the switching, timing, sense of direction. The big advantages of a brushless



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motor are; with the coils on the outer of the motor the heat dissipation is better.

A rotating magnet is easier to balance than a rotating coil. The coils do not expand due to the centrifugal force and as such, their insulation is not prone to friction damage. No brushes, therefore no contact resistance and thus no power loss and heat generation. No frictional resistance from brushes. No brush dust affecting the bearings and producing possible short-circuits in the controller. No brushes to replace no spring tensions to adjust and no commutator to polish or true up. Motor efficiency is a lot higher than brushed motors, as much as 85% and more.

No need to retune the motor for reverse rotation either. Unlike a brushed motor, where the timing advance is only correct for one current draw, the controller of a brushless can adjust the timing on the fly. To recap, including both bearings the moving parts count is only 3 and bearings are rated at around 30,000 hours meantime failure, unless you persist in making vertical landings. Early 3-phase brushless motors for model aviation used magnetic flux sensors (Hall sensors) mounted around the motor so that the controller would be able to know the position of the magnet and be able to energize one of the coils at the right time with correct polarity.

The really early controllers were unable to figure out the rotation sense and the prop had to be flicked in the desired rotation for it to start working. Current controllers have done away with the Hall sensors and rely on the back-EMF generated by the collapsing magnetic field in a coil to figure out the position of the magnet(s). Since when the motor is stationary, no back-EMF exists, the controller needs to alternate the polarity of a coil a few times to build-up some back-EMF and figure it out.

Only problem with these brushless/sensor less controllers is that unlike sensor-ed motors were the controller knows the magnet's position at all times and therefore controls the motor down to a tick-over, the sensor less motor can only go down to about 10% of throttle because at low rotation speed the back-EMF is insufficient to be picked-up by the controller. That problem is slowly changing with better algorithms in controller software and some

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manufacturers like Schulze claim a tick-over down to about 2.5% before it loss of control.

To change rotation on a brushless/sensor less controller, just reverse any two of the three wires from the controller to the motor. By removing commutation from the motor and thus making the motor very simple and reliable it can be seen that all the complexity has been transferred to the controller which is now required to modulate and switch/transfer polarity continuously.

The cost of a brushless controller is 3 to 5 times greater than that for a brushed controller of similar rating, but since that is not exactly in the throwaway category anymore, most manufacturers have implemented some partial buy-back scheme in case of failure or damage.

Unlike with brushed motors, multi-motors cannot be hooked-up in series and are unlikely to run properly in parallel on one controller only. Each motor should have his own controller, but can run from the same battery pack. An advantage, if using BEC, is that you double the servo current capabilities. THE big disadvantage, is that on low battery, regardless if you use BEC or not, the controllers will not sense at exactly the same time and one motor will cut before the other, but then the remaining thrust available should be negligible.

Brushless motors come in various configurations of magnet types and quantity, winding turn counts and methods, physical component layouts, fixation methods, shaft sizes (metric and Imperial) and casing materials. Each manufacturer is striving for market supremacy and it will be quite a while before some semblance of standardization appears. Be warned that a controller may not be compatible with each and every motor on the market although some controllers now have facilities to alter the timing angle and the modulation frequency.

If in doubt, buy a controller/motor combo or something recommended by either the motor/controller manufacturer. Some motors have a solid magnet while others have magnets which are epoxied and bound to the shaft assembly, the latter have per se a lower maximum RPM and should not be considered for use in ducted fans or similar.





Don't Forget—Badges are available for sale. Price \$10.00 (incl. 2 stickers).

Contact Kerry, George or any Committee member if you require some.

Show your support and buy one.

|  |  |
|--|--|
| <p>211 Coningham Rd Coningham Tasmania<br/>                 PO Box 87 Snug 7054<br/>                 Contact Greg on 0362679069 or fax<br/>                 0362679061<br/>                 E-mail: <a href="mailto:gjengland@bigpond.com">gjengland@bigpond.com</a></p> |  |
| <p>In Stock: Albatross Glider 2m ARF \$209</p>   |  |
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| <p>New cells Sanyo 4/5 FAUP 1950 mah 38 grams \$9.95</p>   |  |
| <p>GWS Tiger moth park flyer \$209</p>   |  |
| <p>GWS Stick Fuselage version \$89</p>   |  |
| <p>GWS Cub park flyer \$89</p>   |  |
| <p>GWS Zero park flyer , painted green, \$119</p>  |  |
| <p>SJPROPO Speed control 50 amp, 6-12 cells, bec \$104.95</p>  |  |
| <p>Speed 400 6V motor with speed control (8Amp) bec \$59</p>   |  |
| <p>Also able to order entire range of the Wemotec EDF products so if you don't find it on our web site ask.</p>  |  |
| <p>Visit our web site <a href="http://www.ozeflight.com.au">www.ozeflight.com.au</a> for catalogue and secure on-line ordering.</p>  |  |
| <p>Credit card facilities available (Visa, Master and Bankcard).</p>   |  |
| <p>Contact us for all your electric sport flying requirements.</p>   |  |



| DATE   | EVENT                              | DETAILS | TIME   |
|--------|------------------------------------|---------|--------|
| Aug 17 | <b>Free Flight &amp; Old Timer</b> | LMAC    | 9:00am |
| Aug 17 | <b>Scale</b>                       | LMAC    | 1:00pm |
| Aug 25 | Glider Day                         | Don     | 9:30am |
| Sep 21 | <b>Novelty Fly-In 2</b>            | LMAC    | 9:30am |
| Sep 29 | Pattern Comp                       | NWAM    | 9:30am |

**“BOLD”** text denotes LMAC events

**Contests to be on the day specified. If weather is not suitable, then the next day, Sunday. If that too is not suitable then the event is cancelled and we move to the next contest scheduled.**

**“Club Day” is the first Saturday in each month.  
“Cafe Symmons” will operate each Contest Day and Club Day.  
(Please come along to both these events. These are important fund raising events for your club . Ed.)**

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**Dear Club Member,**

**I would like to invite you in suggesting any particular item which you would like to see in our Hobby Department which we currently do not stock.**

**Currently we are a stockist of Dubro, Aeroflyte, Flash, Zap, Cool Power, Great planes, Monokote, Hitec, Sanwa, Futaba, O.S., Master Airscrew, plus many other major brands of R/C Planes, Balsawood and Accessories.**

**Just a reminder to all current club members that you are eligible to receive a 10% discount on anything you purchase in the hobby department including special orders.**

**\*Discount is excluded from items already reduced.**



**Contact D'Wayne Leonard  
118 –120 Brisbane St  
The Mall  
Launceston  
PH: 1800 806 867  
Fax: 03)6331 7165**

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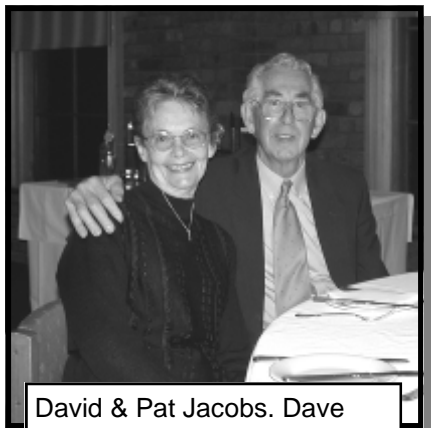
# Candid Camera



Tim & Ros Sydes  
both obviously  
enjoying  
themselves



Andrew & Robyn McEntyre (with  
P5 sneaking in the picture)



David & Pat Jacobs. Dave  
had a very successful contest  
year. Well done Dave!



Max & Janet Wiggins—whilst  
piloting bigger “models” these  
days—still supports the club.