PROP TORQUE

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CD	Geoff Hays	6344 1920
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Geoff Hays with his “Kristen Husky” just prior to it’s maiden flight after a refit. Nice to see Geoff taking time out from his CD duties to have a fly. Hope to see more of you Geoff!

Official Newsletter of the...

LAUNCESTON MODEL AERO CLUB Inc.

VOLUME 12

JUNE

2002

CAPTAIN'S REPORT

Peter Kidson (03) 6394 4380
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Hello to all.

It may be a secret but have you noticed how cold it is?. I have and I'm not sure I like it.
It must be the time of year. Ice, winds, short days and of course the odd earthquake. Good old Tassie always produces something different every year.
Not a lot has happened since my last report in terms of the club. We were supposed to hold a seven cell glider competition last Saturday but as usual at this time of year it was cancelled because of the weather. I believe Geoff our resident CD will try again to hold it on club day next month.

On the point of club day please don't forget all you members who would like to learn to fly your models that this is the day in which to do so. Our instructor's would be only too pleased to help. It may be that even if you can fly you may want an update on how to trim the plane correctly or how to slow the plane up so you have more time to land safely.

Talking of safety, ever done a range check?. You know, put the plane on the ground. Switch on and walk away. You need to get a good distance away before everything starts to jitter. You walk back satisfied all is well. So you decide to try the same test with the engine running.

Switch on, start the motor and walk away. At the same distance again everything starts to jitter. The engine revs up and the plane sets off in the direction of your mates plane. How many pilots have just guessed it may be a good idea to have a friend hold the plane while you walk away?. By now probably all of you. The funny thing is this is not a practice we are used to doing. Perhaps we should?.

At the last meeting the committee presented Gill Waddle with a small token of thanks. We have been holding meetings there since I joined the club. Gill never fails to provide us with a cuppa and some of the most tasty cakes. On behalf of you all I would like to say thank you to her for the time and effort she puts in.

I found out the other day that a friend of mine in conjunction with a small group of others has undertaken to construct a jet engine. I'm telling you this because it may be an opportunity to learn more about them, the engines that is my friend. I'll try to glean him of any progress made and relate his stories of triumph and failures as they go along.

That's about it from me for this month.

See you at the field…
Pete….

To all those doubters, Pete is not married to one of those pattern aircraft. Here he is at the Annual Dinner with his wife Sylvia.

Nice to see Kevin Swiggs a past president of the club attend the Annual Dinner—all the way from Darwin!

SECRETARY'S REPORT

Gerry de Groot
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gdegroot@vision.net.au

Hello all.

Here is a summary of proceedings from the last committee meeting, held on 17 June:

- By the time you read this column, this year's affiliation fees will have been paid to the TMAA/MAAA; they include insurance cover for all financial members for the coming year. It is worth noting that ***members who have not renewed their subscriptions will not be covered by insurance after 30 June*** and, technically, should not fly at LMAC field until subs are paid. See the 'gentle reminder' elsewhere in this issue.
- More on the committee's project to write a set of simplified contest rules (the aim is to explain the objectives, rules and scoring for each type of competition): The CD tabled draft rules for Novelty Events (it isn't a Fun Fly, as documented in the MAAA rules). These were accepted by the Committee and will be released soon.
- The committee has been approached informally by Railex organisers to gauge interest in LMAC participating in November. Recall that last year LMAC took "time out" and did not take part. However, the committee feels that Railex offers a valuable opportunity to promote model aviation, in all its forms. The committee will discuss Railex involvement in earnest next month, but we will be looking for signs of support from our general membership before going ahead. Railex is a good thing for the whole club to get behind, not just for a few. If anyone is interested, let a committee member know before next meeting.
- The meeting heard of the maintenance work which has been done at the clubhouse over recent weeks. (Inevitably this work seems to be done by a dedicated few.) The same dedicated few will fit a new window to the rear of the clubhouse, and paint

(Continued on page 5)

the equipment shed. Also, look out for word on a working bee in coming months.

- I hope to publish the results of the member survey (which was part of the subscription renewal process) in the next newsletter. Now that the database is up to date, we are now in a position to provide up-to-date lists of members, frequencies, etc. Look for these on the notice board in the clubhouse, soon.

That's it for now.

Until next month, happy flying.

Gerry de Groot

Just to show the weekend pilots have more than their aeroplanes—here is Gerry and his wife Virginia also taken at the Annual Dinner.

Kerry & Julie Grey having a good time at the Annual Dinner.

From the Editors

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

Hello for another month.

As the weather has been typical of Winter, we haven't been flying much so not a lot to report this month. Of course if there hasn't been much flying I expect we are all taking advantage of this poor weather and are busily building that new model to take to the skies when the weather improves… haven't we?

Well for my part, I'm retiring the trusty 7 cell Defender and I have bought an FVK Silent Dream. Whilst an ARF (does that mean **A** lot **R**equired to **F**inish?) I learnt that these models just don't require a bit of hinging, fit your gear and fly it out of the box. There's much more to it. I'll be better prepared next time.

The 7 cell competitions are drawing a lot of interest, which is great to see. These LMR (limited motor run) events require quite a bit of skill to succeed. Use just enough motor run to gain sufficient height to thermal but not too little that you have to start again to regain height, then fly for a maximum of 300 seconds and then land on the spot to gain maximum points. If you don't think that's very exciting, you didn't see the fly off between Steve Ralph and myself at the recent State Championships. I understand a lot of the IC guys are acquiring 7 cell gliders so expect to see some intense but friendly competition.

Even if you're not going to compete, come and see the next competition scheduled for Club Day, July 6. I'm sure Geoff would appreciate some timekeeper assistance and I'm also sure we'll all have some fun along the way.
Until next month..
Put a spark in your life—Fly Electric
George & Kerry
PS: If you haven't rejoined PLEASE do so.

Contest Directors Report

With last months report of 5 pages from me to bring you all up to date with last years results, makes this months report from me a bit of a non-event.

That's about what it really is as the planned 7 cell event on Saturday June 15th did not happen due to unfavourable weather and running it on the next day Sunday did not look too good also at the time so we decided to give it a miss.

The committee at their June meeting which was delayed by one week (rather timely as it turned out) have decided to slot it on the Club Day on July Saturday 6th. Seeing as there wasn't anything planned till Saturday July 20th Pattern comp it was decided to see if we could fit it in if we could.

So weather permitting of course (and it is winter) Saturday July 6th 9.30am 7 cell event and Saturday 20th July 9.30am Pattern comp.

Might I take this opportunity to ask all intending competitors to any of our events, if in doubt of a contest being held due to weather conditions, to give me a ring at home on 6344 1920 up till say 8.45am or after that on mobile 0508 559806, this will also get me at the field hopefully if I am there. Also do not take for granted that a postponed event will automatically be held the next day Sunday, give me a ring on the Saturday evening on either of the above numbers to confirm. I would not like to travel down to the field for nothing.

Well that's it for this month so hope to see you at the next events.

So as always, Happy landings all.

Geoff CD

Electrasite

More on Props

Folders are manufactured in either; plastic, nylon, glass-filled fiberglass, carbon-filled epoxy and stranded carbon, the most expensive of them all, expect to pay up to $70 and more for the top-of-the-range brand name carbon prop blades. Due to the nature of the blade design and requirement, failure is most prevalent at the hub itself, also these props have a lower RPM limit than conventional ones. If a blade should part company from the rest of your model, expect the motor to follow suit a very short time after. The blades are quite resilient to damage from vertical landings as they fold on impact or are already folded. To prevent blade and/or people damage, always connect your battery with sufficient clearance between blades and anything else in case the motor should start and the blades unfold.

Motors (Brushed type)

The cheapest least efficient motors are the brushed type, i.e. current is passed to the motor armature by spring-loaded contact of a set of carbon or silver-loaded carbon to a commutator fixed to the motor shaft. The lowest configuration is normally a rotating armature made from silicon steel laminations with 3 individual copper winds at 120 degrees angle from each other, the commutator has 3 contact areas to each of which the start wire of one adjacent wind and the end wire of the other adjacent wind are either crimped or crimped/ soldered to. Commutators are made from thick brass machined to near perfect concentricity. The housing of the motor contains two sets of permanent magnets in opposing poles. Timing of the motor is achieved by rotating the brush holder assembly in relation to the housing/magnets. Zero timing is the point at which an unloaded motor uses minimum current. A zero timed motor allows you to run the motor in either direction without further adjustments. Cheap motors are either zero timed or timed for a fixed sense of rotation, reversing the rotation and timing on those is either very hard to do or near impossible. NEVER run a timed motor in reverse rotation,

as the results will be spectacular and final.

Motors run best and brushes last longer when there is maximum brush contact area with the commutator. To avoid partial contact, which forces large currents through a small surface area and thus pits the commutator surface, run a new motor through 3 or 4 full battery cycles at low current allowing the brushes to seat properly. Incidentally, radio interference from a motor is nearly all due to the arcing of badly seated brushes and/or incorrect timing.

Effects of running zero timed motors at high current are these; as power is increased there will be trailing edge fire, examination will reveal chipping of the trailing edges of the brushes and burning of the commutator trailing edge, also the positive brush will wear twice as fast as the negative brush. A properly timed (advanced) motor will show very little brush fire and the commutator will show even wear.

One method to set proper timing is to monitor the voltage ripple at the motor terminals with an oscilloscope, a properly timed motor will have very little voltage ripple. A simpler approximating method is the “divide by ten” method, first measure the no load current at neutral timing by rotating the brush holder to achieve minimum current (props and gearboxes should be removed for this). Then decide the maximum current you wish to run at, say 50A, divide that 50 by 10 and add the result (5, for those of you that don’t have a calculator handy) to the zero timing current, next rotate the brush holder counter to the sense of rotation of the prop until the current load matches the calculated sum. If you get confused with the sense of rotation just remember that advancing the timing always causes the RPM to increase. These adjustments should be done with sufficient initial voltage applied as not to exceed about 10000 RPM, make your measurements quickly as an unloaded motor will get hot when run with timing advanced 20 or 30 degrees. Take note that a motor is only timed for one ideal current load only, so on a LMR (limited motor run) type model, time it for maximum power, but for a sports model time it for 65 to 70% throttle (about 50% of maximum current). Some manufacturers make motors with

moving brush assemblies, which maintain near optimum advance, Plettenberg makes one such, and for all Plettenberg enquiries contact Greg Robertson. Ideally, current measurements should be made with a clamp-type DC Amp meter, but a tool like the Astro "Watt meter" is a cheaper and handier solution. Before I forget, I need to state the obvious, red is positive and black negative even in the northern hemisphere. Typical magnet types are Ferrite and rare earth magnets such as Cobalt and Neodymium. For those of you who like to run their motors hot, remember that magnets loose their magnetism above a certain temperature.
Motors with the stronger magnets are also the more expensive ones. Motors with very strong magnets can experience strong cogging, that is that it becomes hard to rotate a coil from one magnet to another, with a noticeable acceleration/deceleration for each coil/magnet junction, this can have a detrimental effect on gearboxes at certain RPM where the gearbox is subjected to backlash. An example of this is the ND10 with Neodymium magnets (strong!) and only 3 coils, an example of smooth running is the Astro Cobalt 40 with Cobalt magnets (softer) and 11 coils.

Jacques Wakae jlwakae@bigpond.com.

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Call George Carnie— 6398 2141 or 0418 134672.

In case anyone thought our Treasurer, Nigel Keefe was a phantom.. here's proof he exists! Merv is sticking close by as Nigel controls the purse strings!

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.

Coming Events

DATE	EVENT	DETAILS	TIME
July 6	**7 Cell Electric (was Club Day)**	**Round 1 LMAC**	**9:30am**
July 20	**Pattern Competition**	**Round 1 LMAC**	**9:30am**
July 28	Glider Day	Don	9:30am
Aug 15	**Free Flight & Old Timer**	**LMAC**	**9:00am**
Aug 15	**Scale**	**LMAC**	**1:00pm**
Aug 25	Glider Day	Don	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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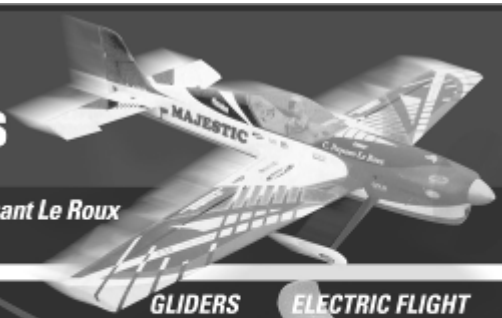

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