The magazine for all those who love Free Flight

The BFFS DIGEST

September 2015



In this issue:

* *2015 Free Flight World Championships*
* *E-Safety*
* *P30 State Champs*
* *Indoor P18 State Champs*
* *½A and QDP club comps*
* *2015 Flying Calendar*
* *And the French Connection returns*

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Club web page
Currently we don't have one - any volunteers?

The Motor Boys (the late Ron Chernich's) **web page**
http://modelenginenews.org/bffs/index.html

Contributed articles dealing with matters of interest are published from time to time in BFFS Digest.

The Brisbane Free Flight Society Inc. is not necessarily in agreement with any article in the newsletter.

Articles printed herein are published in order to promote discussion amongst members as well as any enquiries.

COVER PAGE:

Watched by Kathy Burford, Paul Rossiter and Gary Goodwin, Craig Hemsworth gets away strongly in one of the F1B World

PRESIDENT'S REPORT



September already, which means we are in the last part of 2015 but still with lots more flying on our calendar before our presentation dinner in late November. In thinking about the year so far the expression "things are a changing" comes to mind. Our weather has become quite unpredictable with good flying weather for most of August and not so good in May. Once you could count on light winds locally in April and May and westerlies dominating August. Electric power has been popular in RC for some time and to a lesser extent in CL but until late has failed to make any impact in Free Flight. E36 looks like changing our thinking with the ease of operation and the lack oil or rubber lube to clean. RDT and Radio assist have become popular with our members also making life a little less stressful.

Recent changes to FAI Free Flight events reducing the number of rounds from 7 to 5 probably reflects in part the age of competitors flying Free Flight however as we have found with our State Champs this year it does allow for more flexibility with running events. Recent club events have been well attended and without pushing the builder of the model barrow it was nevertheless nice to see a range of homemade models. It seems the youth of today prefer to enjoy technology off the shelf with FPV Quad copter racing becoming very popular. I must admit that sounds like fun too. As with most things it's not a case of better or worse but a matter of choice and although I might enjoy other activities, like most of us that fly Free Flight it has a special attraction which is not always easy to explain to an outsider.

Recently I found a plan on the net of a model I would like to build. Previously I would have had an A4 page copied and enlarged but downloaded the plan on to a stick and took it to my local copy shop. What a great result – perfect full size reproduction without those thick lines and printing that occur when you enlarge a plan and a cost of only $9***. Another advantage was it was rolled and laid out flat when I got home as opposed to a creased plan that would normally be folded to come through the post. Things don't stay the same but some things often improve. Hopefully the next few months will provide some excellent flying weather to finish the year on a high.

Cheers *John Lewis*

***ED**: John, try Officeworks, and easily halve that cost. They also roll them.*

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Articles! We need more articles. How about writing one for next Digest? Regular contributors need a rest!

Thanks John Lewis, Tim Hayward-Brown and Frederic Nikitenko for your help

REMEMBER

The property owners near our flying field have requested we make contact with them at all times before entering their property to look for our models. Co-operation here is vitally important as they will help us if we help them.

SECRETARY'S REPORT

HI all



Kathy and I have just returned from the other side of the world, literally. Mongolia is a long way away, sandwiched between Russia and China. It was quite an experience. The events were very well run by the Mongolian Air Sport Association (MASA). I have never experienced such a well trained group of timekeepers. Each pole had 3 timekeepers, for each of the four events. I have certainly never seen such a vast expanse of treeless plains. It was almost like a giant golf course and a pleasure to fly on. More on that in the World Champs report.

In my previous editorial, I claimed that the last half of the year will seem tame. It probably will, but there's always something to do. Who knows, I may even make time to start some modelling projects.

Good news is the Seven Mile Lagoon has dried up further and this is nicely in time for the Open Rubber and LSq/100 events in late September.

Cheers, Malcolm Campbell

LETTERS TO THE EDITOR:

Hi Malcolm, thanks for the digest once again, it's very very good as always. John French

Thanks Malcolm, as usual another good read. Good to see what's happening in our West Island
Regards Paul Squires (NZ)

Thanks a lot, once more, Malcolm.
I am on holiday in the south of France, with Bernard Boutillier.

And It is a very great pleasure to look at the BFFS digest on a tablet at the beach! Just try but mind of the sand!

Frederic of France

NEW ARTICLES ALWAYS WELCOME

With over 140 on our distribution list, maybe articles from our overseas or national friends might liven up the content?

The July Fun Day on 26th attracted 12 people including 2 juniors. Kathy, Albert and Malcolm missed out as they were in Mongolia. The weather was great with hardly any rain, just a couple of spits. As usual, the goodies bags were popular, but there was a slight deviation from the healthy morning teas that this event has become known for. Everyone had potato chips for breakfast! Dale has become expert in filling the goodies bags:

- *Ron needed a pin so Dale said "Look in goodies bag"*
- *William needed super glue, forgot his, so goodies bag to rescue*
- *Des cut his hand so band aids in goodies bag came to rescue*

A great variety of models were flown and a lot of testing also, but no one supplied any photos! Three flew in P20 and it was a close contest:

1	John Lewis	60	60	60	180	In the spirit of the Fun Fly days, there was no fly-off
2	Des Slattery	60	60	60	180	
3	Dale Jones	60	54	60	174	

THE FINAL FUN FLY for 2015 is on Sunday 25th October.
P20, CLG, ½ Hour Scramble, Ladies event, Frog, Sport and limited RC flying. FUN FOR ALL!



P30 State Champs

Another glorious day's flying at Coominya with light winds and early overcast conditions. The initial wind direction was towards the road/dam in the corner of the paddock with a few large trees also in the downward direction. Before the first flights were commenced, the question was raised as to what flight times were to be flown - 3 flights of 90 secs or 3 flights of 120 sec. Why was this discussed? Well, there was concern the models may stray beyond the field after 2 minutes. At that stage there was negligible breeze with a calm day predicted.

There still seemed to be no agreement when the event commenced so some were flying to 90 sec max and others 120 sec (50/50). I elected to fly to 120 sec. After all, that is what is stated in the rule book, and it was a State Champs event.

Graham had some trimming to do on his new model and elected not to fly in the contest after missing the first flight in by 9am condition. A pity, as his model looked really good on some of his mid morning flights.

Most models being flown were contest proven and well trimmed. The weather stayed perfect with abundant lift for 40 gm models and by the time all flights were recorded, there were 5 of the 8 flyers in the fly-off. And no one had strayed from the paddock. The debatable point is who had 120 sec scores and who had 90 sec scores? I recorded 120 secs and Des did too I believe.

It was decided that the fly-off would be a mass launch. I moved to the front of the pack (upwind) and launched launched with the others. It certainly was a great sight as 5 models criss-crossed overhead with most finding good air. Des Slattery and I got very good height, as did a few others, but it was soon obvious that our height was greater. Des struck trouble when his model flew into the sun and the timekeeper lost sight of it. By the time Des knew this he couldn't see it either, and his model flew OOS. My timekeeper also momentarily lost sight of mine but Kathy, having finished her timing duties, saw the dilemma, saw me walking under my model and quickly put Ron back on target. My model DT'ed high but the wing DT hurried its descent, to land about 50 metres short of the entry gate.

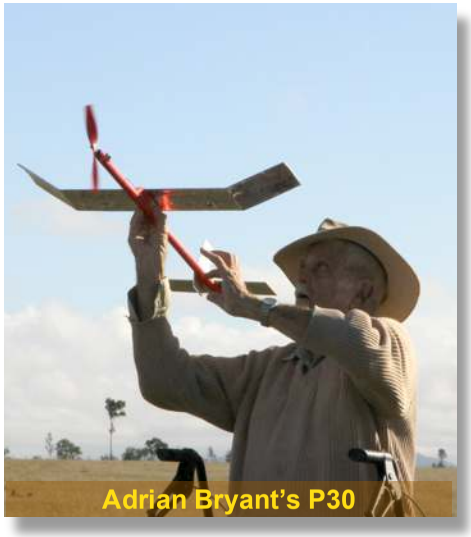
It was a convincing win. My flight was 3.5 minutes longer than the second place getter, with 2nd to 4th places just 7 secs apart. Des placed 2nd, 5 secs ahead of Dale Jones with John Lewis 2 secs behind her.

A1 club competition

This was flown in the middle of the day and attracted 4 interested parties but Mark Armour recorded a 57 sec first flight, prompting his withdrawal. So that left me, Kathy Burford and John Lewis. I had my sometimes trusty Aiglet, Kathy an Andy Crisp designed F1Havanana and John his OD high tech carbon no frills model – quite a mixed bag.

Kathy's first tow up looked quite bizarre as she towed up fast through turbulence, the model performing some unnerving aerobatics prior to release, to record a 111 sec flight. John, from memory, RDT'ed early perhaps because of trees or maybe thinking the model was straying beyond the field boundary, and was down in 99 secs. The day was ideal for the Aiglet and I was able to put up three maxes. John recorded two maxes as did Kathy. Her flights looked perfect, with the model slipping off the line at maximum height. I fully appreciate why she likes this class so much.

I surprised myself by having a clean sweep on the day winning both events, and that was unexpected. So the day ended as it started, a picture perfect winter's day.



P-30 State Champs results

	Name	F1	F2	F3	Total	Fly-Off
1	Malcolm Campbell	120	120	120	360	388
2	Des Slattery	120	120	120	360	178
3	Dale Jones	120	120	120	360	173
4	John Lewis	120	120	120	360	171
5	Mark Armour	120	120	120	360	125
6	Ron Munden	53	120	120	293	
7	Adrian Bryant	37	107	120	264	
8	Kathy Burford	71	42	dnf	113	

I showed the results as 120 sec although some flew 90 secs.
Refer comments in my report.

A1 club event

	Name	F1	F2	F3	Total
1	Malcolm Campbell	120	120	120	360
2	Kathy Burford	111	120	120	351
3	John Lewis	99	120	120	339
4	Mark Armour	57			57

The Free Flight World Championships Mongolia July 2015

Report and photos by Malcolm Campbell



The MASA flying site 2 hours from the Mongolian capital of Ulaanbaatar is one of the best flying fields in the world with vast sprawling green plains that go on forever. Bordered by mountain ranges many kilometres away, there was not a tree in sight, with just a few distant gers and the occasional horses , goats, camels and cows.

Kathy and I had a long time to ponder on my trip to Mongolia, although Kathy was really looking forward to it. By the time the departure date had arrived, I had considered all dreaded possibilities and gallantly flew out of Brisbane International Airport on 18 July. My fears were unfounded – we had a great time, most of the time. So here is my story.

Saturday 18 July: Up at 4 am in the dark with an outside temp of 3 degrees, we made the airport just after 5.30 am. We met up with most of the AUS team in Seoul International and touched down at Ulaanbaatar at 12.45 am. Most of us became instant millionaires when we exchanged USD into tugriks (1 USD = 1,988 tugriks or tuggers to some), and our wallets bulged. We then managed to squeeze all equipment and bodies into the supplied people movers and were in bed at the Bayangol Hotel by 3.40 am, only to wake to the alarm at 8 am. Drat, we lost 2 hours needed sleep – my watch was still set on Australian time!

Sunday 19 July: The Mitchell/Rossiter flight arrived late into UB and they met us at our hotel mid-afternoon. They Rossiters were not happy as they had bags missing and they did not get them until the following day! At 3.30 pm we crammed into the transport vehicle to experience traffic chaos. Mongolians don't use indicators, drive on both sides of the road (to avoid the numerous potholes) and always seem to harmoniously blend in before any "head-ons" occur. Horns are used enthusiastically when overtaking and at all inner city traffic jams, and very few cars show signs of collision damage. I have never seen so many Toyota Prius vehicles; Mongolia being an obvious drop spot for second hand Japanese cars.

We arrived at our Nisleg Gyrocopter camp site at 5 pm with the Rossiter's promptly relocating when they found



Mongolians drive on both sides of the road

their room's HWS had failed! Rooms were basic but relatively comfortable. With minimal English in the menu and only one employee with reasonable English skills, we were shown the location on the menu of the beef, pork, lamb and chicken meals. We wisely choose one of each, banquet style, for our first meal together, so we knew what to order in future. By 8.30 pm we had eaten most of what was supplied, dispatched half a bottle of vodka and headed for bed. It had been a very long two days.

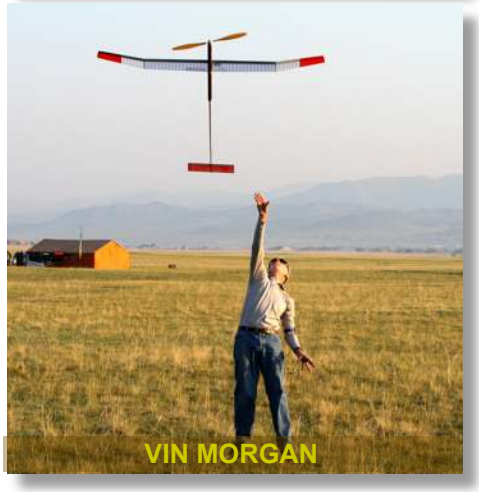
Monday 20 July: Breakfast at 8 am Mongolian style. This is going to take some getting used to. The stale 2 - 3 day old bread, warm powdered milk and cold poached eggs surrounded by oriental sliced sausage may be hard to handle at 5 am. Our own cereal was washed down with the warm milk. As we got used to the cook she got used to us and the menu began to westernise, although I doubt if they ever liked our very early starts. We all spent the morning testing in beautiful weather, and the local scenery was stunning. After a chicken and vegetable soup we put in an afternoon test session until the rain started. Drinkies and then dinner followed by more F1A flying until after 9.15 pm.

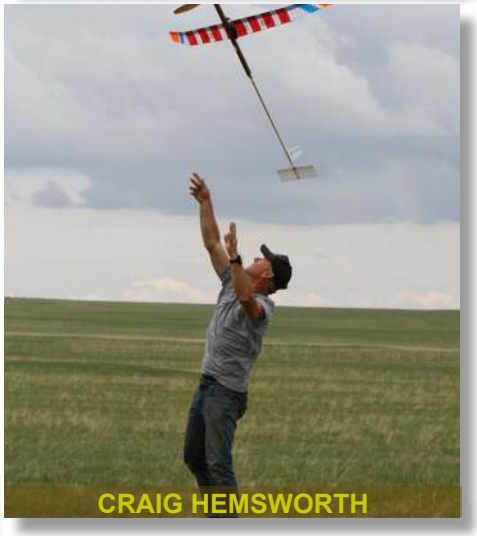
Tuesday 21 July: Paul, Phil and I were out on our local test field by 7 am followed by breakfast and then we all went to visit the MASA (Mongolian Air Sports Association) World Champs flying site, 30 minutes away. First impressions were excellent – this is one superb field. We all got in about half a dozen flights by noon and returned to Nisleg for a tasty vegetable omelette. Then it was recharge model batteries and human batteries (afternoon nap). Another two hours flying between 7 and 9 pm followed by dinner – pushing the limits, with an early start the next day - the Tuvshin's Memorial Cup for F1B.

Wednesday 22 July TUVSHIN'S MEMORIAL CUP F1B and F1C: Cool and very dark at 4.45 am, breakfast down and on the road by 5.45 am, the start of our early morning departures. On sun up at 6.30 am the weather looked ideal for F1B with minimal breeze. Paul dropped 30 secs in the first round and a later launch had him land one second short of a max. In the meantime, Craig and Vin put up 5 maxes to be in the fly-off.

All AUS F1C flyers elected to fly in just the World Champs; they planned to practise on several days before the World Champs. A number of F1C models stalled on transition suggesting the thinner air may have slowed the climb. The top flyers were still at the top, and only a couple of models encountered heavy "landings". Flying was finished by noon so we went food shopping on the way back to Nisleg for lunch. A well-deserved kip followed while Paul put in some time testing. Phil was the first to experience a gyrocopter ride – we were all to follow a week later. Dinner finished by 9.15 pm.


The Australian F1B team looked very strong. PAUL ROSSITER


VIN MORGAN


CRAIG HEMSWORTH


We had our own practice field, 30 metres from our rooms. We use it extensively

Thursday 23 July TUVSHIN'S MEMORIAL CUP F1A: A cool start for a day that was going to warm up and provide very light winds and tough towing conditions for F1A. Vin and Craig performed very well in the 6.30 am F1B fly-off, placing respectively 6th (6m05s) and 10th (5m00s). The event was won by Mongolian Gongor



Kathy did some of my shorter retrieves during the first event



Our retrieval team of Craig Hemsworth and Vin Morgan did an excellent job all day

Mijiddorj (6m57s). More about him later.

75% of the F1A flyers maxed the first round but the air was very tricky with no thermal activity and zero to light winds, causing many to struggle in the unfamiliar conditions. 13 of the 43 entrants maxed all rounds, including Phil and I, and the fly-off was scheduled for 7 pm that night.

So we had lunch at the field and went back to Nisleg for a rest, then a soup dinner before returning to the field. We now had a breeze, too much actually, with winds between 6 and 8 m/sec. I planned to wait on the line, as many did. With 4 minutes remaining, I launched without traffic, upper level air causing the model to zoom right so I lost some launch height and recorded a reasonable 3m06s to place 6th. Phil had trouble, DT'ing off the top, to be down in 21 secs.

Brian Van Nest didn't fare much better, recording 35 secs. Emmanuel Ragot from France was the only one to record 5 minutes, with a score of 5m00.1sec! Celebratory drinks at Nisleg ended at 10.15 pm.

Friday 24 July: At last a day off! So we had a glorious sleep-in and then we went to the Black Markets in UB for some shopping. The girls loved it. We returned home via a detour on the rough and hilly road to Mandal Camp where we had a tasty lunch with the rest of the AUS team and checked out their gers. Their meal menu was something to die for, when compared to ours. Back at Nisleg we finished the day with a brief test session and a light dinner – early starts return tomorrow.

Saturday 25 July MONGOLIA CUP F1A: 71 had entered for the F1A Mongolia Cup and it was cold and windy with 50% cloud cover. Phil had a scare during setup when a towline draped across his model, not from a launch but a dropped line. With the model still attached the line ripped across Phil's stab causing some damage – so he changed models. Not a good start to the day, but it got worse. Phil's R1 flight produces a tight descending turn and a low score, and in R2 his model DT'ed after one minute (not reset after testing).

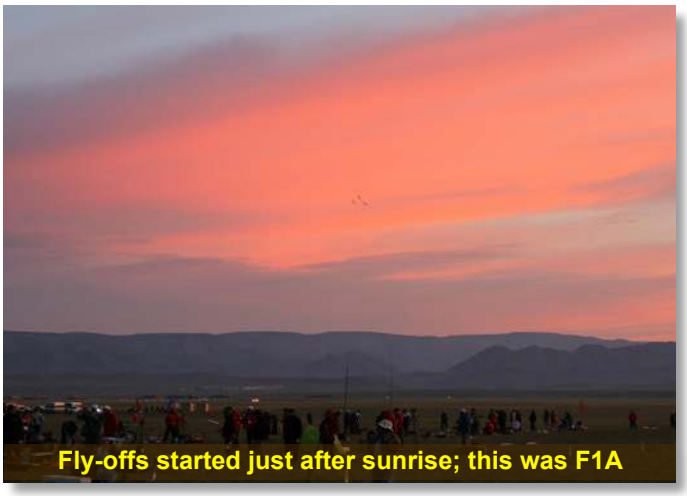
I maxed the first two rounds and by then the winds had increased to sometimes over 9 m/sec. In R3, my model kited each time it turned upwind to be down in 2m16s (31st place). It was also a tough day for Brian Van Nest, zeroing one round with two tow-ins and then losing a model to zero another. Jim Parker maxed all three rounds but all flights were prefaced by attempts. Models were going a long way and only those that were fleet of foot were circling. A number of models were crunched.

The event was declared after R3, with 19 in the fly-off. Later in the evening, Jama Danier (Canada) was the only one to make the 7 minute fly-off with Avner Studnik (Israel) 2nd and Jim Parker (USA) 3rd.

Our retrieval team, Craig and Vin on bike and Paul on foot did an excellent job. We returned to Nisleg for a late lunch. By this stage, we had tried most items on the menu, so we had soup.

I tested my windy weather model in the afternoon after a little nap. A few changes were made. Drinks at 6 pm then dumplings and salad for tea. Phil practised until 9.30 pm while we went and watched Alex (our suave gyrocopter pilot) practise his archery for the national competition (he later won Silver). In bed by 10 pm.

Sunday 26 July MONGOLIA CUP F1B and F1C: Only the AUS F1B flyers competed this day and the air was cold but buoyant, so there were plenty of maxes in the first two rounds, and a few crashes in F1C. The Aussie team was clean until a slightly left launch by Vin in R4 almost maxed as it floated for ages at low height to eke out 2m46s. Rounds 4 and 5 were very tricky with many marginal maxes and models flying all over the field. Vin's last flight got the best height of the comp but Paul and Craig were the only Aussies to max out, with the 7 min fly-off set for 7 pm. Around midday I got word from Albert that he was in UB and on his way out to the camp. We go home for a 1.30 pm lunch and I spend the next 17 hours in bed trying (unsuccessfully) to rid myself of a hacking cough that stayed with me for


Fly-offs started just after sunrise; this was F1A

the duration of the holiday. With a good bunch of F1B supporters, Paul and Craig make the 7 mins, and then the air goes flat for the 9 min fly-off. Craig and Paul place 13th and 14th respectively, 3 secs apart, and Mongolians fill the 1st, 3rd and 4th places.

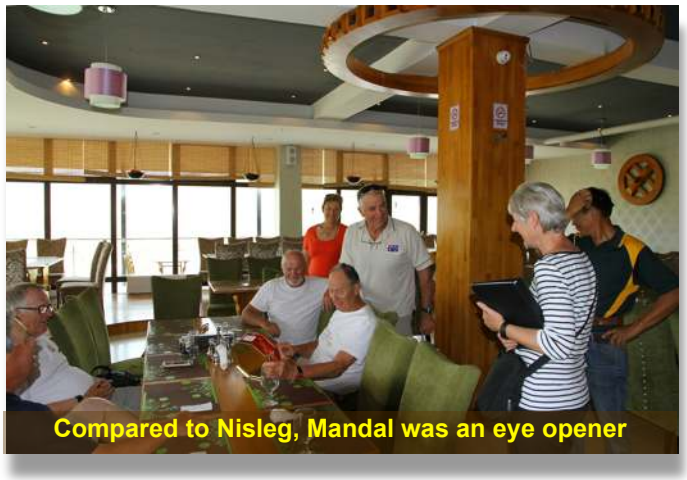
Monday 27 July Model Processing and Opening Ceremony: Not a nice morning to wake up to – cold and drizzling with a developing breeze – a good day to be indoors. But it's Model Processing at the Sky Friends airfield at 10.30 am and the Opening Ceremony at the Chinggis Khan tourist spot at 6 pm. Registration and processing went smoothly (with alphabetic processing Australia was first!) and we all received our goodies bags. More supermarket shopping on the way home.

The Opening Ceremony was held at the Chinggis Khan tourist attraction in sunny but breezy weather. Speeches were short; Per Findahl addressed the flyers as he did in France two years ago

Tuesday 28 July: Back to beautiful mornings, we went out to the MASA field at 8 am for practice, with Noels and Kathy B staying home. All AUS team members in A, B and C put in many flights until an approaching thunderstorm caused us to head home at 10.30 am. The storm did not eventuate. Albert planned a team meeting at Mandal after lunch so we picked up the girls and slithered along the 7 km of greasy dirt road to the main AUS camp. I'm glad we didn't have to do this every day – our Nisleg camp was only 1 km off the bitumen. The well-organised team meeting went very well.

We then drove to Khan Jim's, the 2014 haunt of the AUS advance party. The timber foot bridge washed away last year had been replaced with an elevated steel RSJ girder bridge. We had afternoon tea there, caught up with Peter Allnutt from the Canadian team and headed off through the fields (literally) to Nisleg, encountering a herd of Yaks along the way, on the first day I left my camera at home. Drat!

Later in the day, Paul tried unsuccessfully to fix a failed battery pack in the weather station, using the handy Nisleg gyrocopter workshop. Roy Summersby later came to his aid with an externally fitted F1C starter battery. Phil put in 2 hours practice and Kathy and I rested. With tea over by 8 pm, Kathy and I were in bed by 9 pm. Tomorrow is the F1A World Champs and Kathy is not feeling at all well. She would be sick the next 24 hours with a stomach bug and unable to attend the next two days of competition – our most important days. I felt so sorry for her, as she was really looking forward to it.


Compared to Nisleg, Mandal was an eye opener

Wednesday 29 July F1A WORLD CHAMPIONSHIPS: In Round 1 there was no breeze and, with no Kathy, I had Noels to launch for me. Now Phil takes off like a jack rabbit, and I'm more of a turtle. Not sure who got the biggest surprise in R1 and R2, Noels or me. All I know is I had no feel for what seemed like seconds, as I reefed in as much line as I could to regain tension. I barely max with just 3 seconds to


Per Findahl addressed the flyers at the Opening Ceremony



Our little red bus and Tiger, our trusty drover, porter and bodyguard, available 24/7 for 2 weeks


The early rounds were a bit tricky for me


The winners in the F1A world championships

spare, Phil maxes from high up and Albert DTs off the top for a shattering 20.6 sec score. It's good to have a runner in these events, and Phil was a great one to have – it gave me an extra set of eyes and someone to discuss the weather with. Phil also ran for Albert. I had one more close call but at the end of the day, seven maxes. Mission accomplished!

Running for Phil was my exercise for the day. That lad covers a lot of ground and it's good to hear and observe his tactics. So Phil and I help make up the 31 out of 78 who are in the 5 minute fly-off. We all felt sorry for Albert who had a wretched day. FO1 was for LDAs with massive height gains for those chasing Jama. Phil maxes easily and I am pleased with 4m47s, after ground turbulence robs me of valuable seconds. 27 competitors proceed to FO2 at 6.30 am the next day. I was happy with my 28th placing and so pleased to do well in FO1, all better than expected. Actually I finished ahead of the whole US team.

Thursday 30 July F1B WORLD CHAMPIONSHIPS: Yesterday, the weather for F1B looked dreadful but it didn't eventuate, turning out very much like the previous day. The **F1A FO2** was conducted in near ideal conditions, with models gliding east and west of the flight line. Phil had an excellent launch, great height, slow flat open glide and an encouraging 5m15s flight time. He looked good! Then we heard of 6m01s from Per Findahl. Jama Danier looked hopeful but nerves wrecked his chances. He was down in 4m14s after a bad launch.

Then disaster – the black carbon LDA models of Bosnian Enes Pecenkovic and German Stefan Rumpp collide with a resounding crack, carbon bits falling from the sky. Only 3 minutes remain. Enes sprints back to his reserve (non LDA) model and launches in the last 2 minutes. He finds good air, records 6m49s, and places 2nd! Rumpp places 9th. Israeli Eyal Galor nearly makes 8m to win and Roumanian Szilard Sijjarto places 3rd just 2 seconds behind Enes! What an exciting end to the F1A competition. Our Phil placed 10th, and he was pleased. His final flight was superb, others simply got better air.

Paul Rossiter's weather station had been extensively and successfully used in prior comps. This was to be the feature event for the little plotter, and it worked well. With 76 in the **F1B World Champs**, AUS order for launch was Paul, Vin and then Craig. This year, Australia had great teamwork and it was well-oiled for this event.

R1 was a heart-stopper for Paul, when he recorded a time of 3m59.6s. Rounding up fortunately gave him the max. Craig nearly missed R1 when a stalling model nearly sliced his model off the stooge, hitting his winding stooge instead. Craig and Vin went on to max easily. There were strong performances from many flyers, with mass launches down the length of the flight line in reliable air for the first two rounds.

Paul, Vin and Craig maxed all five rounds and our team looked very strong. Then disaster struck!

Paul's model was pulled off the retrieval bike for random processing. The motor weighed in at 30.42 gm = immediate disqualification. Paul was shattered. Paul and Albert went back to the processing tent with other motors to verify recorded weights to the event scales, and they were all underweight as tagged. Paul has an assumption for the overweight motor. As the R5 motor was shredded, all pieces were tipped out and weighed. Perhaps one piece from a previous broken motor may have been in the tube when the R5 motor was loaded? Was this the rogue piece that made him overweight?

We all felt so sorry for him and, while he appeared outwardly receptive to the verdict, internally he was gutted. To his credit, he quickly focused on weather station duties, providing invaluable support for the AUS team members.

After the two hour lunch break, R6 started at 2 pm. Craig maxed both remaining rounds and Vin struck bad air after a very good launch, to be down in 2m23s.

Increasing winds caused the 6.30 pm fly-off to be moved a kilometre

eastward. Craig has to swap models when he discovered a broken line in his best model. With 31 in the 5 min fly-off, Craig recorded 3m43s to place 21st, his model gliding faster than he would have liked. Japanese flyer Mitsuhiro Kogano was just 1 second in arrears of Craig, and Serbian Bojan Gostojic another second behind that. It was close! Roger Morrell also dropped, having to swap to a model without a tracker. He expected a long retrieve.

So only 7 went into FO2 and the host country was elated. Mongolian Bojan Gostojic won and was the only one to make 7 minutes! A Mongolian was World Champion! He was followed home by Ukrainians Stepan Stefanchuk and Oleg Kulakovskyy.

Friday 31 July F1C WORLD CHAMPIONSHIPS: The F1C Champs started cold and wet with reduced visibility causing a one hour delay to the start, so the AUS team sheltered in our little red bus. We all looked decidedly tired after so many days of early starts and late to bed nights. With the weather clearing from the east R1 started at 8 am and the planned lunch break was reduced to one hour.

Another disaster – we were to have two bikes, and now we had none! Investigation reveals we were allocated one bike and it was given to Austria, because it sounded like Australia. Well, Austria thought that it was fair! Eventually an old clunker was found for us and Gary Goodwin mastered it. Early rounds presented trimming issues for Gary Pope and Neil Pollock, with both models flying straight for long retrieves. Terry and Roy maxed.

Mongolian TV had 5 cameras and many reporters. They produced 3 one-hour video (separate ones for A, B and C) and these can be seen online. Roy was a sensation, surrounded by cameras and reporters at each launch. I think he liked the attention. There were 45 entrants in F1C, probably a 60/40 mix of folders to non-folders.

The weather improved as the rounds progressed and Paul's weather station continued to convey valuable information to the team. The F1Cs had their fair share of thermals and these appeared to come through on a regular frequency, thanks to early notification from the Rossiter weather plotter. In fact many teams were using electronic thermal detectors. Thermals were stronger after lunch with interesting photographic opportunities at one stage when umbrellas and plastic sheets were whisked into the sky.

19 qualified for FO1, with the flight line a further 1 km east of the control tents, and the start time was set at 6.30 pm. By 6 pm storm clouds were building in the west and looked very ominous. The fly-off proceeded on time and everyone rushed off to retrieve their models, with one eye on the advancing storm. 7 would resume the battle at 6.30 am the next morning.

As the winds increased, the urgency to pack up also increased, almost to panic stage. Thankfully there was no rain and fortunately no lightning. All models were in boxes and cars were being loaded when the wind came through like an express train, cresting at what I'd guess was 80 kph. Albert, carrying some bags, was blown off his feet, as were a few others. And those back at control were faring worse. The large military style tents were starting to tear up. The bus drivers formed a wall on the windward side as 40 gallant souls helped tie down the damage so there would be tents there in the morning. They succeeded. Sadly the Beer Tent back at the MASA camp disappeared entirely, but a


Roy the media tart enjoyed all the attention


The winners in the F1B world championships


2013 F1C world champion Roy Summersby didn't disappoint his fan base by placing 2nd


The weather provided some amusement


and some serious concerns

topless version was operating again by the next day! Thankfully no gers were lost – their squat round shape made them bullet-proof.

Driving home to Nisleg, we saw hail on the road-side and rivers of mud on each side of the road. Phil called them gully rakers.

Saturday 1 August MIXMAN: FO2 of the F1C World Champs commenced at 6.40 am for 7 flyers in cool conditions with a very light breeze. Roy Summersby got good height but an average transition created a slight stall that didn't settle until the second circle. Reinhard Truppe also got good height and his model looked to be gliding very well. Mike Roberts wasn't so lucky although he placed 7th. Then Slava launched. Massive height, great transition and then the glide. The watches clicked him off at 10 minutes and the new World Champion in F1C was Viacheslav Alexandrov with our 2013 World Champ Roy Summersby just 33 seconds in arrears. Our favourite little Chinese flyer Yuan Gao (at West Wyalong and Narrandera this year) took out 3rd place.

And then onto MixMan, flown to the new FAI rules. 48 flew, comprising 25 As, 15 Bs and 8 Cs. The F1Cs flew 4 seconds and F1As had to fly a 4 minute first round. The Aussie "team" was Paul in B and Phil and I in A. We all managed the 4 minutes in round 1. As the winds got up the models flew further. Phil says he walked 2 kms in R2, as all the bikes had been returned. My walks were also long, and in R3, I considered 3 models, and managed a max after unlatch troubles with a model I put away. By now, the winds were over 9 m/sec with some spells of 11 m/sec. Time to call the event.

Paul dropped the last round although Phil and I were still clean, making 19 for the fly-off (14 As, 4 Bs and 1 C). Even though there were 3,000 euros in cash prizes, Phil and I decided not to fly, placing us equal 16th, as we were all over getting up so early, and we knew it would be cold and windy.

So we went back to Nisleg to pick up Noels and to return to the field for the **mini Nadaam Festival** put on by the organisers. It was cool, windy and occasionally wet but we all enjoyed the spectacle. The Nadaam Festival is the premier tourist event held in July in Mongolia's summer, and it was so good that we got to see an extract of what goes on. Nadaam encompasses horse racing, wrestling and archery but it's not the horse racing we know. It's for male and female children aged between 5 and 13 racing small light horses across open fields without saddles.

We saw a rendition of the finish with about 20 horses involved. The all-male wrestling was a spirited affair with two bouts conducted jointly with eliminations until the final winner was found. Archery is over a 75 metre distance and it was here it deviated from the Nadaam principals. Flyers were invited to compete, and it was our Roy who won. Well he had to; he was the only one who hit the target! The festival also included singing, dancing, playing the morin khuur and throat singing.

Sunday 2 August MixMan fly-off, Award Ceremony and Banquet: It turns out the MixMan models did fly a long way in the fly-off in a 7 m/sec wind, and it was essential to have a


Slava was the popular winner of F1C, with Roy Summersby 2nd and Yuan Gao 3rd


The mini Nadaam Festival was a unique addition to the proceedings

flasher to remain in contact with the timers. And so it was that USA's Bill Booth won MixMan with an F1B, with Szilard Sijjarto ROU placing 2nd ahead of Jim Parker of USA 3rd. 20 seconds was the gap between 1st and 3rd, and 5 F1As finished ahead of next F1B flyer, Blake Jensen, placing 7th for the USA. The cash made it all worthwhile for the winners!

Instead we did a guided city tour, visiting the Chinggis Khan Square, the modern State Department Store (yummy cinnamon buns and coffee) and the delightful Cashmere stores where many tugriks exchanged hands. We finished with an excellent and economical lunch at the restaurant adjoining the Cashmere stores.

We then returned to Nisleg where the Rossiters, Noels, Kathy and I all had a ride in the gyrocopter. Phil had tested it the week before and had been niggling us to do the same.

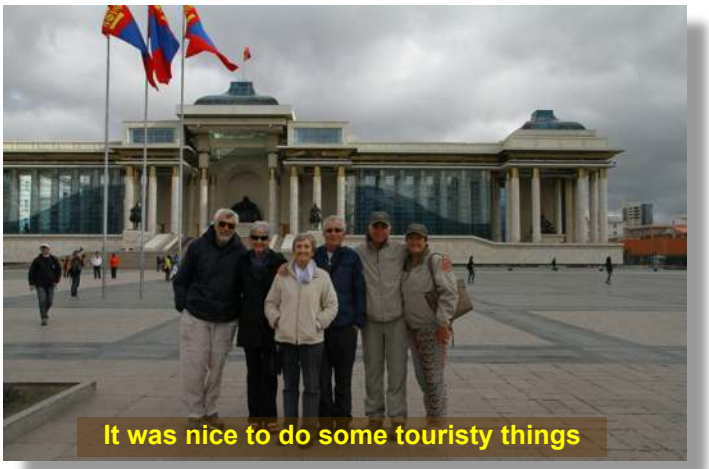
And then we started packing all our belongings ready for the trip home. The **Awards Ceremony** at the Chinggis Khan tourist attraction went off very well. No long speeches and a novel and unannounced appearance by the timekeepers, who had put two flash mob mass dance sequences together for us.

From there we went to the Sky Friends airfield for **The Banquet**. This was held in an open hanger and sadly, was the only part of the whole event that deserved criticism. Suffice to say it was way short of what 40 Euros per head could have bought, in any country.

Still Mongolia was a great experience and the organisers should be acknowledged for what they achieved. The field was excellent and the organisation of each event was outstanding. One aspect that stood out on every day was timing. The timekeepers were spot on, always cheerful and were so easy to work with. Some will no doubt become modellers, and Mongolia will soon develop a strong base of world-class flyers.

Monday 3 August: Now back in Ulaanbaatar, we caught up with the Aussies in the Irish Pub as they whiled the time away before their midnight flight. There were many flyers in the pub. Vasi and his friends were well through their second or third bottle of Vodka and were very, very jovial. And the USA team were having fun in a more subdued way. So we had a superb meal with Phil and Noels who were about to embark upon a 5 day tour through the Gobi Desert. The Seiferts were also doing the Gobi, the Van Nests were "going bush"

…continued after the results


It was nice to do some touristy things


There are some old buildings in UB



I tried out the dreaded gyrocopter



And so did Kathy


The banquet was the only disappointment



2015 WORLD CHAMPIONSHIPS MONGOLIA JULY 2015

F1A RESULTS

		76 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Total	FO1	FO2
1	Eyal Galor	ISR	210	180	180	180	180	180	180	1290	300	473
2	Enes Pecenkovic	BIH	210	180	180	180	180	180	180	1290	300	409
3	Szilard Sijjarto	ROU	210	180	180	180	180	180	180	1290	300	407
10	Phil Mitchell	AUS	210	180	180	180	180	180	180	1290	300	315
28	Malcolm Campbell	AUS	210	180	180	180	180	180	180	1290	287	
74	Albert Fathers	AUS	210	21	180	85	180	88	180	944		

F1B RESULTS

		75 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Total	FO1	FO2
1	Gongor Mijiddorj	MGL	240	180	180	180	180	180	180	1320	300	420
2	Stepan Stefanchuk	UKR	240	180	180	180	180	180	180	1320	300	380
3	Oleg Kulakovskyy	UKR	240	180	180	180	180	180	180	1320	300	376
21	Craig Hemsworth	AUS	240	180	180	180	180	180	180	1320	223	
47	Vin Morgan	AUS	240	180	180	180	180	143	180	1283		

F1C RESULTS

		45 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Total	FO1	FO2
1	Alexandrov Viacheslav	UKR	240	180	180	180	180	180	180	1320	300	600
2	Roy Summersby	W/C	240	180	180	180	180	180	180	1320	300	567
3	Yuan Gao	CHN	240	180	180	180	180	180	180	1320	300	457
8	Terry Bond	AUS	240	180	180	180	180	180	180	1320	295	
41	Niel Pollock	AUS	192	180	29	145	180	180	180	1086		
42	Gary Pope	AUS	84	180	132	180	180	180	138	1074		

F1A Tuvshin's Memorial Cup

		44 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1
1	Emmanuel Ragot	FRA	210	180	180	180	180	930	300
2	Jama Danier	CAN	210	180	180	180	180	930	275
3	Tumur Sanjaa	MGL	210	180	180	180	180	930	238
6	Malcolm Campbell	AUS	210	180	180	180	180	930	186
14	Phil Mitchell	AUS	210	180	180	180	180	930	21

F1B Tuvshin's Memorial Cup

		28 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1
1	Gongor Mijiddorj	MGL	240	180	180	180	180	960	417
2	Sukhbat Batsuuri	MGL	240	180	180	180	180	960	404
3	William Booth	USA	240	180	180	180	180	960	398
6	Vin Morgan	AUS	240	180	180	180	180	960	365
10	Craig Hemsworth	AUS	240	180	180	180	180	960	300
18	Paul Rossiter	AUS	212	180	180	178	180	930	

F1C Tuvshin's Memorial Cup

		22 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1
1	Artem Babenko	UKR	240	180	180	180	180	960	600
2	Artur Kaitshuk	RUS	240	180	180	180	180	960	509
3	Yury Perchuk	RUS	240	180	180	180	180	960	476

F1A Mongolia Cup

		67 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1	FO2
1	Jama Danier	CAN	210	180	180	Not flown	Not flown	570	300	420
2	Avner Studnik	ISR	210	180	180	Not flown	Not flown	570	300	409
3	Jim Parker	USA	210	180	180	Not flown	Not flown	570	300	342
32	Malcolm Campbell	AUS	210	180	137	Not flown	Not flown	527		
50	Phil Mitchell	AUS	142	59	180	Not flown	Not flown	381		

F1B Mongolia Cup

		48 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1	FO2
1	Batzorig Davaa	MGL	240	180	180	180	180	960	420	401
2	Ondrej Parpel	CZE	240	180	180	180	180	960	420	358
3	Sukhbat Batsuuri	MGL	240	180	180	180	180	960	420	340
13	Craig Hemsworth	AUS	240	180	180	180	180	960	420	241
14	Paul Rossiter	AUS	240	180	180	180	180	960	420	238
35	VIN Morgan	AUS	240	180	180	166	180	946		

F1C Mongolia Cup

		24 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1	FO2
1	Alexander Vyazov	RUS	240	180	180	180	180	960	420	379
2	Avraham Elyakim	ISR	240	180	180	180	180	960	420	275
3	Erdenebat Batzorigt	MGL	240	180	180	180	180	960	420	246

Mixman F1A, B, C and P

		48 FLEW	Round 1	Round 2	Round 3	Round 4	Round 5	Total	FO1
1	William Booth	USA	240	180	180	Not flown	Not flown	600	274
2	Szilard Sijjarto	ROU	240	180	180	Not flown	Not flown	600	267
3	Jim Parker	USA	240	180	180	Not flown	Not flown	600	265
16	Phil Mitchell	AUS	240	180	180	Not flown	Not flown	600	
16	Malcolm Campbell	AUS	240	180	180	Not flown	Not flown	600	

The Mongolia story continues ….

Mongolian style in search of fish and Jim Parker was off to Russia. Others were simply going home.

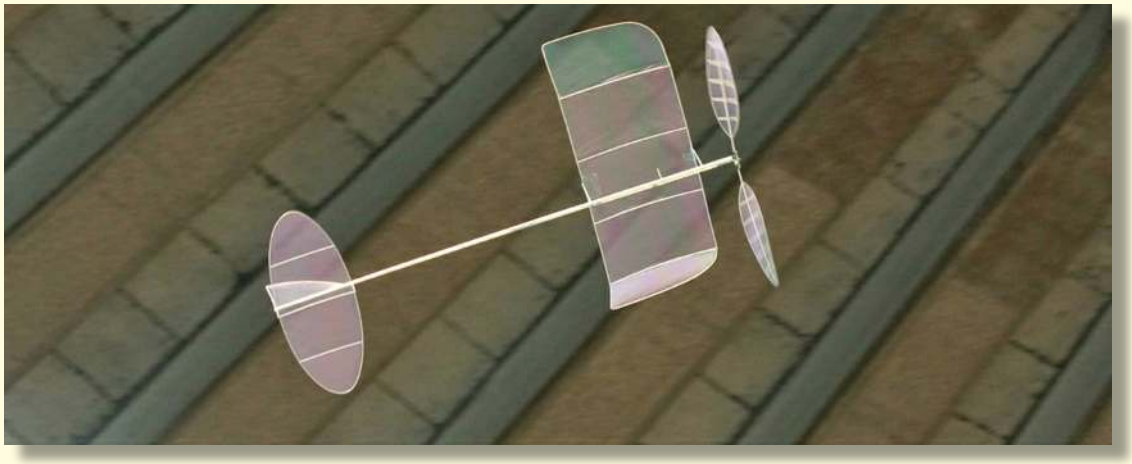
Tuesday 4 August: We hung around UB the next day doing a few touristy things and buying souvenirs. It was that afternoon that I felt quite sick (food poisoning?) and wondered if we'd make the early flight tomorrow. Kathy did the packing while I sorted myself out. Fortunately, we were on the plane at 7 am Wednesday morning, and struggled home over 29 hours. It was a long, long trip and we were so glad to be home.

Mongolia will be remembered as a great experience, and the Australian Team did extremely well in competition.



The medals of champions

F1D World Championships Team Trial 29 November 2015

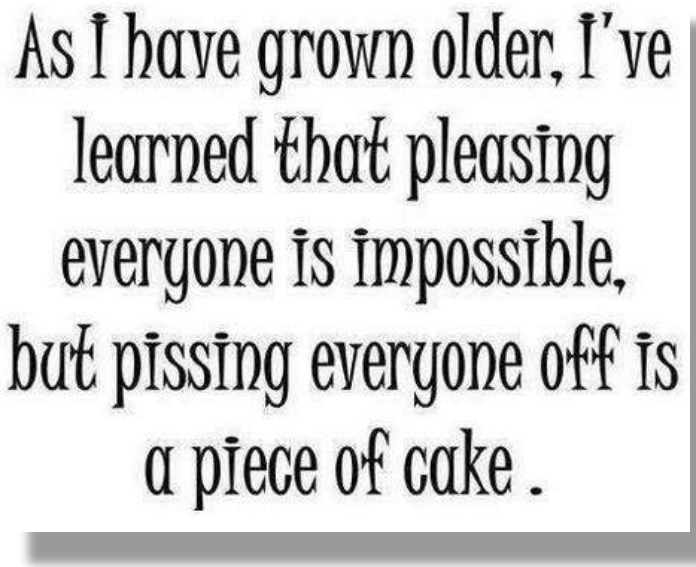


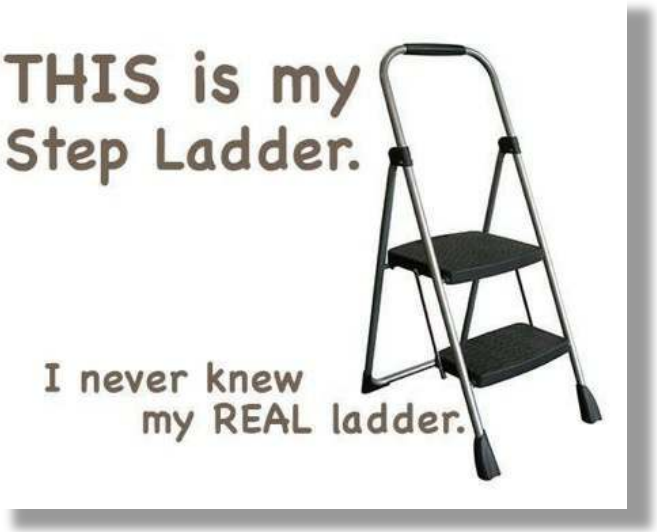
A Team Trial will be held in Adelaide by the Adelaide Aeromodellers Club, with support from MASA, to select team members for the 2016 F1D World Championships to be held in the Slanic Salt Mines in Romania. A new 'Boyd Felstead' perpetual trophy will be awarded to the winner.

To find out more about competing, or to register, please contact the Contest Director preferably by email at tim.haywardbrown@gmail.com
Ph: 0419 825 541

Rubber-powered free flight F1D models are the slowest recognized fixed wing aircraft in the world. An F1L (EZB) competition will be held concurrently. Come along and see a unique and unusual side of the hobby. Visitors are welcome and admission is free.

Date: Sunday 29 November 2015 (3pm to 8pm)
Venue: The Gardens Recreation Centre, Parafield, South Australia.





INDOOR

P18 BFFS Sponsored State Champs

report by Louie DaFly

The main event of the day (P18) attracted 5 competitors. Craig Byrne could have made it 6 however his new untried P18 had initial trimming problems resulting in some damage and he was therefore unable to compete. John Lewis got away to a good start with a model that was looking the worst for wear with an excessively warped wing looking a bit like a propeller. Van had 2 new models but suffered from changes in trim during flight resulting in the models diving into the floor. The problem turned out to be loose wing post tubes.

Brian as usual was the dark horse starting off with solid but not spectacular scores but as the afternoon wore on his true potential became clear as he took the lead to comfortably win the event. Try as he might John was unable to improve on his early scores to take second spot. Ron Munden looked to be the third place-getter until a late charge by John Taylor who finished third one second ahead of Ron from his last flight.

As usual there was a fair bit of Delta Dart flying and Peanut Scale trimming in preparation for the next event in September. John Taylor flew his RC Mini Vapour while Craig played with his rubber powered canard design.

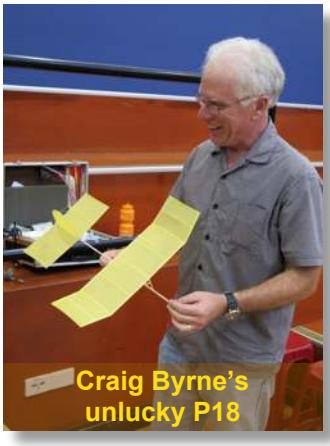
Another great day at the hall and with only one Indoor day left in 2015 make the effort to come along and join in the fun.

Name	1	2	3	4	5	6	Best of 2
Brian Taylor	117	149	140	**172**	**163**		335
John Lewis	142	**150**	**152**	125	42		302
John Taylor	43	96	103	**113**	87	**105**	218
Ron Munden	**99**	**118**	65	65			217
Van R-Smith	67	52	**70**	**82**	61	61	152

Last Indoor for the year is on 12th September 2015

DON'T FORGET!


Craig Byrne's canard


Craig Byrne's unlucky P18


Ron Muden sets up


Van Richards-Smith


John Lewis's weather-worn model


Brian Taylor's scaly - an Aus deisgned Scout Ultralight


Mark Armour's boys Alex and Max with their Delta Darts


Van R-Smith's new P18

1/2 A and Queensland Diesel Power

16 August Coominya

Report by Malcolm Campbell



Having just returned from the World Championships in Mongolia the week before, I wasn't really ready for any more competition but I was the only one with a key that could go on the Sunday. So I wearily threw things in the car. August is traditionally plagued with westerly winds but recently the weather has been unpredictable. On this occasion we ended up with a near perfect day. Power events have never attracted big numbers locally and with a few potential starters not able to attend we ended up with 3 in each event. We could have had four but the gremlins moved in on Graham's models.

So we arrived at Coominya at 8 am to find Des, Graham and John already there as the program said 7 am start, It had been forgotten that we voted to start at 8 in winter. The original thought was to fly from the top paddock and that would have been a good decision in hindsight but it was decided to go down into the bottom paddock near the second old water tank. Not a good move as the road was very rough and the area selected to fly equally as rough with fences and the pig farm uncomfortably close. But it did test the off-road capability of our vehicles. Second choice also put us close to two fences and cattle but the breeze was light so we all felt we'd better start flying as time was moving on.

Mark Armour and Malcolm Campbell put up a few flights with gliders and the drift was variable and light. It was good to see Mark's two boys Alex and max launching for their Dad and play with their Delta Darts. They did a good job and seemed to be having a good time. And Sheila Munden looked very comfortable beavering away at the crosswords.

½A was first cab off the rank and Des Slattery was quick to signal his intention with two beautiful maxes from his Cox powered Limey. Des really knows how to get the best from this little design. Looking good and high in his final flight the wheels fell off when the model struck unhelpful air, putting him down in 64 seconds.

John Lewis trotted out his venerable Purple Haze, now resplendent in new livery but still carrying the purple and white theme. Now this model has a few tricks but are within the club rules so up it goes up steep and straight without the corkscrew turn of the older designs in ½A. But it didn't transition or glide as well for its first flight since the recent tart up, returning a respectable time of 99 seconds. John adjusted the trim and the second flight was much better and a max was recorded. Well, a little bit more than a max actually, as the timer didn't start or was on the wrong scroll, and it glided in after 6 minutes, only 200 metres away! His final flight nailed it, with a good climb and transition and a glide that meandered around the paddock sniffing and getting the lift for an easy max.

Ron Munden had starting problems but eventually made his 3 flights all sub maxing with generally short motor runs.

Graham Maynard discovered glow head problems with his model, something he couldn't have tested at home without disturbing his neighbours, so the model only got a few hand glides before it was put away.

QDP followed ½A. By mid morning, the wind had increased with the drift taking models towards a few trees. Flyers had to be careful when and where they launched. Malcolm's first flight didn't get the right air so, coupled with a stall that had originated since its last flights over a year ago; it was down in 81 secs. So out with the razor blade and sanding block. His second flight went better, good air and less stall and a relatively easy max. His final flight was a beauty. All three flights had a very good climb pattern but the last one was really assisted, transitioning high in a nice thermal for the flight of the day, DT'ing very high and taking 1m30s to land, up near the main exit gate So for a Dixielander with a piece of PAW iron on the front to take so long to come down, it was high. Looking up at this model John overhead Des saying "*This is why we fly free flight*".

John started late with his QDP Dixielander flights, as he completed all ½A flights first. He started well with a flight transitioning high into a good glide. Then it DT'ed at 1m50s. Why? The next scroll was a minute away and he didn't want it flying that far. Drrrr. Second flight went even better as far as launch height was concerned but someone pressed the "Down" button and he was clocked off at 76 secs. Drat! But he made amends with a glorious final flight, with a max a foregone conclusion. No, another early DT for a 1m 56s flight. Come on John, change the disc on the timer. It can't be that hard.

Des 's Elfin powered Stomper looked good on the glide but was robbed of a decent time with a short motor run in his first flight. His second flight stretched to the full 10 seconds, but then he struck a problem. His model DT'ed after his max landing in 6 inches of water, the residual of the rapidly drying Seven Mile Lagoon. There is so little water it was rotten luck to find one of two small patches of water on the whole paddock. As the clockwork timer was under water, Des wisely elected not to fly the final round.

Graham Maynard's bad luck from the ½A event followed him into QDP. His first flight tracked unerringly towards two tall trees. It lodged in one of them, breaking the fuselage just forward of the stab so that the tail lodged in one fork and the main part of the model in a lower branch, both pieces connected by the DT line which Graham proudly told us was braided. Life wasn't meant to be easy! Des had a 6m pole so, using gaffer tape, we linked 3 poles of various sizes together to get about 11 metres length for our wobbly retrieval device. John, Des, Graham and I laboured for about 45 minutes with eventual success. Graham was pleased.

Ron Munden also had a Dixielander but it seemed down on power and Ron spent the time testing it without recording scores.

We finished off the comps by midday and what was a glorious winter's day it was. Sorry for the lack of photos. I've had my eye in the viewfinder way too much these last few weeks so I gladly left the camera gear at home. So I dragged a photo from the archives!

John thought that Kathy and I looked fit and refreshed after our trip to Mongolia. Actually it took us more than a week to get over the big trip, so it must have been the golden glow from the winter sun that made us look good!

½ A RESULTS

1	John Lewis	99	120	120	339
2	Des Slattery	120	120	64	304
3	Ron Munden	44	27	52	123

QDP RESULTS

1	Malcolm Campbell	81	120	120	321
2	John Lewis	110	76	116	302
3	Des Slattery	51	120	0	171

Dave Putterill collaborated with Tim Hayward-Brown to talk about the Hip Pocket Coupe Postal, the detail of which appears in the September edition of Free Flight Down Under

This part of his story took my fancy:

Later I was in the shed checking the photos on my computer and I felt something knock against my chair. I got quite a shock to see quite a large KOALA looking up at me, now we do very rarely see them around here, but this was quite a shock. After climbing onto a shelf and destroying a Dornier 217 I was in the midst of repairing I managed to shoo him out.



I got quite a shock



A bit over a year ago Mark Braunlich from the US proposed an online postal comp for 1960s Coupe d'Hiver models. The competition called for designs to be built from plans printed and published from 1960 to end of Dec 1969. Send in your times and may the best Winter Cup flyer win. Simple.

The competition is on again for 2015/16. Competition website:

http://www.hippocketaeronautics.com/hpa_forum/index.php?topic=16375.375

THE FRENCH CONNECTION



Photos by Frederic Nikitenko



The field where the comp was flown, with the Oiron mediaeval church and chateau in the background. It is the very field Phil Mitchell and I used at sun up prior to the World Champs 2013, returning to our hotel in Oiron for breakfast croissants!

My good friend Frederic supplies excellent photos from French competitions, this time it's the iconic Piotou event for 2015. I attended it in 2013 but it was tragically cancelled on the day because of a conflict with the melon pickers. This year, it was a great success.

F1A Luca Aringer
Maarten Van Dijk
Jes Nyhegn

F1B Benoit Jacquemin
Gilles Chaveau
Maxine Tisserond

F1C Sigurd Sedel
Michel Reverault
Neil Allen

F1Q Peter Buchwald
Tom Oxager
Tony Shepherd

F1H Gary Madelin
Didier Echivard
John Cooper

F1G Neil Allen
Alessandro Manoni
Rene Boucher

F1J Tom Oxager
Peter Buchwald
Alan Jack

E36 Ray Elliot
Pascal Ceres
Peter Buchwald

Poitou 2015



F1B winner Benoit Jacquemin



Sleek French F1G



Francois Decassou



Jean-Marie Fournier's E36



Elois Regualt placed 9th in F1B



Evgeny Gorban talks to his F1G



Pascal Ceres placed 2nd in E36



Narrow rib spacing on Jean Luc Drapeau's F1B



Didier Chevenard F1B



Kiwi Paul Lagan placed 5th in F1B and 4th in F1G



Myriam Morandini and Benoit Jacquemin



Maxime Tisserond placed 3rd in F1B



This is John Lewis's very tidy E-36 (blood removed)

E-SAFETY

I connected up the electric motor, ESC, timer, battery etc. Trying to establish which way the motor was running to colour code the 3 phase connectors so the motor would run in the correct direction I put the metal hub on the shaft and started it up. I was pretty sure I had it correct but just to make sure I connected the folding props. Now being an out-runner motor there is not much to hang onto - just the small mounting disc. It's only a small motor and I held it as tight as I could and fired it up for a 5 second run. Now that little bastard of a motor has a lot more pull then I could have imagined with the props attached. Bloody thing nearly got away from me and cut through one of the cables. Don't - I repeat don't start one of those electric motors up with the prop attached and try and hang on to the mounting disc.

LiPo Battery Basics

from AMA "Model Aviation" email

There are two items everyone entering electric flight has to deal with: batteries and connectors. On the surface, it's simple, but it causes more confusion and questions than practically anything except motor designations. I will shed some light on these and I hope to clarify things. This is for the electric newbie who wishes to understand and make the right choices for his or her requirements.

Battery Types

Everyone is familiar with the batteries he or she uses around the house. Most are alkaline in AA, AAA, C, D, or 9-volt formats. Others are rechargeable Nickel Cadmium (Ni-Cd) or Nickel Metal Hydride (NiMH). In the dark ages of electric flight, we used Ni-Cd and NiMH batteries, but now the standard is Lithium-ion Polymer (LiPo) and that will be the focus here. These batteries are sometimes referred to as battery packs or simply packs.

There is another type of battery chemistry called a Lithium Iron Phosphate (LiFePO4) that some use for flight packs, but are more often found in receiver and transmitter packs. They are usually referred to as LiFe packs or A123 packs, referencing their makeup and brand name.

Each type has its advantages and disadvantages, but because LiPos are the de facto standard in electric flight, I'll concentrate on them.

Safety First

Rumours abound about safety, or lack thereof, when using LiPo batteries. Much of that is leftover from the early days of LiPo packs and the lack of information available to the user at the time.

Incorrect chargers were used, incorrect voltage cutoffs were used, and they were being discharged at levels that the packs couldn't support. As chemistries, protective circuits, and information improved, LiPo batteries have become a safe and suitable source of power. Here are a few simple rules for increasing your safety:

- Always store batteries in a fire-safe container.
- Always charge with an appropriate charger designed for LiPos.
- Always follow the manufacturer's instructions for charging and discharging rates.
- Always size a pack according to its usage.
- Never overcharge.
- Never overdischarge.
- Never use a puffed pack.
- Never use a pack that has visible damage (dents, cracks, etc).
- Never charge a pack unattended.
- Never disassemble or reconfigure a damaged pack.

Most accidents involving LiPo packs are the result of not following one of these rules. Understand the charger you're using and follow the manufacturer's guidelines and they will serve you well. Charge safely.

Understanding the Labels

Labels contain plenty of information, but understanding them is often confusing. A few simple definitions will help you.

- 3S, 4S, etc.: Battery packs are composed of a number of cells in series and this number represents that. If the pack is listed as a 3S pack, then it has three individual cells connected in series within the pack, each with a nominal voltage of 3.7 volts. The pack's total will then be listed as an 11.1-volt pack. A 4S pack would be 14.8 volts, etc. (four cells x 3.7 volts = 14.8)

- Capacity: The capacity rating of a LiPo battery tells its output potential, or how long you can take

power from the battery at a given rate before it reaches the cutoff voltage, or is discharged. The faster you take power from the battery, the less time it will last.

Many times, our batteries' capacities are listed in milliampere hours (mAh) instead of ampere-hours (Ah). This is merely a metric conversion to a smaller unit—1 ampere hour = 1,000 milliampere hours, so 2.2 Ah is 2,200 mAh.

• Discharge rating: "C" represents a measure of the rate at which a battery can be discharged relative to its maximum capacity. If the battery is discharged at a rate higher than the discharge rating, the battery may be damaged, or worse, could pose a safety hazard, like a fire.

If a battery's discharge rating is 15C, it means that the most power that can be drawn from it at one time is equal to 15 times its capacity. Using the example of a battery which has a capacity of 2,200 mAh, this means that greatest flow of electricity you can safely get from the battery is 15 x 2,200 = 33,000 milliamperes (or 33 amperes).

The discharge rating listed on the battery's label is based on what the manufacturer believes the pack will handle during discharge without degrading the pack. These discharge ratings, sometimes mistakenly referred to as C ratings, can be optimistic and are best used as a guideline. Packs with higher discharge rates have lower internal resistance (IR), which is a good thing.

Many batteries with provide two discharge ratings such as 30C/60C. These represent the continuous and burst ratings.

The first number means that it will continuously support a 30C discharge, and for short bursts (typically less than 15 seconds) it should support 60C. This allows for spikes during rapid throttle changes, but shouldn't be something you use regularly. If you need higher current levels, buy a higher capacity/rated pack.

• Internal Resistance: This represents the internal resistance of a cell or pack. Some chargers will test the IR for each cell within a pack during the charge cycle. As internal resistance increases, the battery efficiency decreases. So as a general rule, the lower the resistance the more punch a battery will provide. It's nice to know, but not something to get hung up over as a beginner. As a rule, packs advertising a high discharge capacity will have a lower IR.

Battery pack labels are often the manufacturer's attempt to put its product in the best light. A pack rated as a 65C pack and sporting small-gauge wires to the connectors won't really handle that amount of current. Sometimes packs come with large-gauge wires, but they're soldered to tiny tabs inside the pack, which negate the benefit of those monster wires. Shop carefully and use the best battery you can afford.

Memory

If you're beginning to fly electric-powered aircraft and your only experience has been with Ni-Cd or NiMH packs, you're probably wondering about memory effect. Older Ni-Cd and NiMH batteries suffered from an effect termed memory in which the way the battery had been discharged in the past would affect its performance in the future, even after being fully recharged. The good news is with LiPo and LiFe packs, there is no such concern.

Sizing Your Battery Pack

If you're new to electric-powered models, you will probably follow the manufacturer's recommendation for an appropriate pack for your aircraft. That's what you should be doing.

As you expand your hangar, you may decide to add a bigger battery or need something that isn't specified. You need to do enough research to get a feel for what type of current the setup will pull under full throttle and size your pack accordingly.

If your airplane requires a 3S setup using a typical 2,200 mAh pack and you change to a "hotter" motor—meaning one that is more powerful and will pull more current—you need to see if your current packs can handle it. If your current power system is pulling 20 amps with your 2,200 mAh 15C pack, but your next motor upgrade will pull 35 amps, that pack won't be happy. Let's look at why.

The 15C pack is technically capable of pulling 33 amps (2,200 mAh x 15 = 33,000 mAh or 33 amps), so your 20-amp requirement was well within its limits. Now looking at the new setup with the motor requiring 35 amps, you see that the pack is undersized, if only by a couple of amps. That's enough to cause problems that can be costly in the long run.

I recommend buying a quality LiPo pack that is well beyond the projected requirements of the setup. Running a pack at its limit will guarantee a short life and wasted money. Pay attention to the label and notice if it gives two ratings such as 30C/60C. These represent the continuous and burst ratings as previously mentioned.

Charging and Storage

Always balance charge when you can. Balance charging evenly distributes the energy stored in the battery across the multiple cells inside. This will prolong your pack's life and ensure better service from it. You can get away with fast charging at the field without balancing if your regular routine is balance charging at home.

There are debates about charging and storage levels, but the safe bet is to store batteries at something other than fully charged or fully discharged. Most good balancing chargers offer a storage mode that takes them to a level of approximately 3.8 volts per cell. The important thing is not to leave them fully charged or discharged for long periods of time.

The Secret to Long Life

The secret, at least for your batteries, is to charge to 4.1 volts per cell as opposed to the full 4.2 volts per cell, and never discharge them to full discharge level. Working your packs in between the two ends of the charge/discharge levels will greatly increase their lifespan.

Engineer/charger/ESC designer Doug Ingraham described it this way: "There are several things that cause degradation of lithium batteries. One is heat and for the purposes of RC modelling, this is most likely the one that causes the greatest degradation. The others have to do with the effects on the materials at both ends of the state of charge.

"The lithium ions are forced into the carbon material on the plates at both ends of the state of charge. This causes a breakdown in the material, and in future charge cycles less ions can be held causing degradation in capacity. It is mostly at the ends (full and empty) that this damage occurs so staying away from the ends even a little can help extend the life of the cells."

Several chargers offer a charge cutoff labelled "Long Life" or something similar and they stop the charge at 4.1 volts per cell. From Doug's explanation, you can see that using the 4.1 volts keeps you off the top end and setting an ESC low-voltage cutoff above the traditional 3 volts per cell will keep you off the bottom end. Unless you're a competitor trying to squeeze every last bit out of your flight, this will serve you well and save you money.

Disposal

When your batteries get to the point that they need to be disposed of, one of the simplest options is using a no-cost used rechargeable battery and cell phone collection program offered with a network of more than 34,000 collection sites throughout North America.

Call2Recycle accepts NiMH, Lithium Ion (Li-Ion), LiPo, and Ni-Cd batteries weighing up to 11 pounds. Simply visit the program's website, www.call2recycle.org, and enter a ZIP code to find a collection center near you. If you don't have Internet access, call (877) 273-2925.

Drop-off centres are located at corporate offices, healthcare facilities, manufacturers, military bases, and at major retailers such as The Home Depot, Lowe's, Staples, and Best Buy (**Ed:** These are n*ot Australian stores!*)

Connecting It

The connectors you choose for your model are as important as any other piece of equipment. Connectors are designed for certain sizes or gauges of wire. As such, they are rated for specific maximum electrical throughput, just as wire is (as you learned in the terminology table). Like wires, if more electricity is put through a connector than it was designed for, resistance and heat will increase.

You can use the connector table to find out what type of connectors you have and what their capabilities are. There are many types of connectors available, and most beginner models come from the factory with some type of preinstalled connector. This connector may or may not match the battery you have. Adaptors are available for many types of connectors and existing connectors on models or batteries can even be completely replaced with a connector of your choice.

Many modellers with multiple airplanes try to keep the same type of connectors on all of their models and batteries for simplicity.

Ultimate Low-Tech Tester

Your hand is one of the best meters to gauge how your setup is doing. The magic temperature for a danger threshold is 140° on LiPo packs, and that is darn hot if you touch it. If your battery feels too warm, it probably is.

Heat is wasted energy and a sign of trouble. If your motor is too hot to touch, it's probably over-propped. If the ESC is too hot to touch, it's probably undersized, as is the battery if it's hot. If your connectors are warm, they're a choking point in the circuit, causing high resistance and lost efficiency.

Heat is a natural byproduct of our setups, but we need to size things accordingly to keep it at a minimum. A small, inexpensive IR temperature gun can be a valuable tool when troubleshooting.

Wrapping It Up

Don't make your world more complicated than it has to be when trying electrics. Information abounds on the Internet, as do rumours and conjecture. "Experts," and even experienced modellers, tend to load up newcomers with more information than they need to get started, and do it out of their exuberance for the hobby.

Do your homework, study the manufacturer's information, and try to make the best decision you can. Don't obsess over it! Most Plug-N-Play systems work well and are well matched. There's plenty of time to venture out on your own.

Don't overtest your batteries on the bench. That doesn't replicate actual flight conditions.

See more at:
http://www.modelaviation.com/lipo1#sthash.khnqG82S.dpuf

2015 Champion of Champion's Points Table

Name	F1A	F1B	Scale	HLG	CLG	F1G	P30	Total
Malcolm Campbell	5		4		5		5	19
John Lewis	3	3		3	1	3	2	15
Des Slattery			3	4	3		4	14
Ben Lewis	4	4.5				5		13.5
Brian Taylor			5	5	2	1	13	
Dale Jones						4	3	7
Craig Hemsworth		4.5						4.5
Kathy Burford					4			4
Mark Armour		2					1	3
Albert Fathers	2							2
George Baynes						2		2
Phil Mitchell	1							1
Graham Maynard		1						1

2015 Club Champion's Points Table

Name	2 min Event	Vic Smeed	A1 Glider	½A Power	QDP	Total
Des Slattery	3	5		4	3	15
John Lewis			3	5	4	12
Malcolm Campbell			5		5	10
Kathy Burford	5		4			9
Ron Munden		4		3		7
Dale Jones	4					4
Mark Armour	2		2			4
Brian Taylor	1					1

BFFS Spy









TL: Kathy gets archery lessons **TR**: Exhausted Aussies shelter from rain in red bus

BL: Albert chats with UK F1A flyer Brian Baines **BR:** On silent wings - John's A1 and Des's E36

BRISBANE FREE FLIGHT SOCIETY

MONTH	DATE	START	EVENT	LOCATION
January	Saturday 31st	12pm-4pm	Club meeting plus "show and tell"	John's place
March	Sunday 8th	7am-2pm	✈ 2 Minute class models (all in, 3 flights) ✈ Vic Smeed event	Coominya
	~~Saturday 21st~~	~~7am-12pm~~ ~~1pm-4pm~~	~~F1C State Champs (5 flights)~~ ~~Open Power State Champs (3 flights)~~	~~Dalby~~
	~~Sunday22nd~~ Sunday 22nd	~~7am-2pm~~ 7am–1pm	~~F1J State Champs (5 flights)~~ Dale's Fun and Friend's Day (P20,CLG and special Ladies event, Sport and limited RC)	Coominya
	Saturday 28th	4pm-7pm	**Indoor** IHLG/Catapult State Champs	BSHS
April	Saturday 11th – Sunday 19th		68th Nationals (R/C, C/L ~~and Indoor~~)	Various
	Friday 17th – Friday 24th		Southern Cross, (Kotuku Cup) and AFFS Champs	W-Wyalong and Narrandera
May	Saturday 2nd	4pm-7pm	**Indoor** F1L State Champs	BSHS
	~~Saturday 16th~~	~~7am-2pm~~	~~F1A State Champs (5 rounds + 2 for team selection)~~	~~Dalby~~
	~~Sunday 17th~~	~~7am-2pm~~	~~F1B State Champs (5 rounds + 2 for team selection)~~	
	~~Monday 18th – Sunday 24th~~		~~68th Nationals (Free Flight)~~	~~Dalby~~
	Sunday 31st	7am-2pm	Scale, HLG and CLG State Champs	Coominya
June	Saturday 6th	4pm-7pm	**Indoor** Hanger Rat State Champs	BSHS
	Sunday 14th	7am-1pm	F1G State Champs (5 flights)	Coominya
	Saturday 27th	12pm-4pm	Club AGM meeting plus "show and tell"	John's place
	Sunday 28th	7am-2pm	✈ P30 ✈ A1 Sailplane (both 3 X 2 min flights)	Coominya
July	Saturday 11th	4pm-7pm	**Indoor** P18 club sponsored State Champs	BSHS
	Sunday 12th	7am-2pm	✈ 100gm Coupe ✈ KKK (both 3 flights)	Coominya
	Sunday 26th	7am-1pm	Dale's Fun and Friend's Day (P20,CLG, ½ hour Scramble, special Ladies event, Sport and limited RC)	
August	Saturday 1st	4pm-7pm	**Indoor** Peanut Scale State Champs	BSHS
	Sunday 16th	7am-2pm	✈ ½A Power ✈ QDP (both 3 X 2 min flights)	
September	Saturday 12th	4pm-7pm	**Indoor** Peanut Scale State Champs	BSHS
	Sunday 13th	7am-1pm	F1H State Champs (5 X 2 min flights)	Coominya
	Sunday 27th	7am-2pm	✈ Open Rubber State Champs (3 X 3 min) ✈ Comb. Open % (3 flights)	
October	Sunday 11th	7am-3pm	✈ LSq/100 (3 X 3 min) ✈ No Frills (5 X 3 min)	Coominya
	Sunday 25th	7am-1pm	Dale's Fun and Friend's Day (P20,CLG, ½ hour Scramble, special Ladies event, Frog, Sport & Ltd RC)	
November	Sunday 8th	7am-3pm	✈ Col's Comb. Vintage (3 X 3 min) plus ✈ 2 Minute class models (all in, 3 flights)	Coominya
	Sunday 22nd	12 noon	Xmas party and presentation	Bremer Waters
	Sunday 29th	7am-1pm	General flying day	TBA

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2015 FREE FLIGHT CALENDAR