The Thermaleer

The Hat Trick Man !

Mark pulls off the hat trick by winning the Roy Robertson Memorial Trophy 2003 three times in a row. Congratulations Mark Collins.

Story and results on pages 8/9

President's Report:

Hi Folks,

My last report for year 2002/2003. As you will be aware our July meeting is our AGM and all Committee positions are vacant. It will be nice to see other members involved in the committee.

I will make myself available for another year organising and helping run our many competitions. Because we use the current MAAA rules in place of our old SAM600 rules, our meetings should be back to the subjects we enjoy, flying and camaraderie, knowing that Kevin Fryer will be happy to promote any rule changes that you may consider will improve our national rules.

Your support during the past year was really appreciated even though we experienced shocking weather conditions for our competitions. Luckily, our members managed to really enjoy themselves at Cohuna and Swan Hill.

Sorry to report that Brenda Hosking has had the misfortune to suffer a heart attack. Brenda is recovering and would like to thank our many members who have wished her well.

Regards, Chris

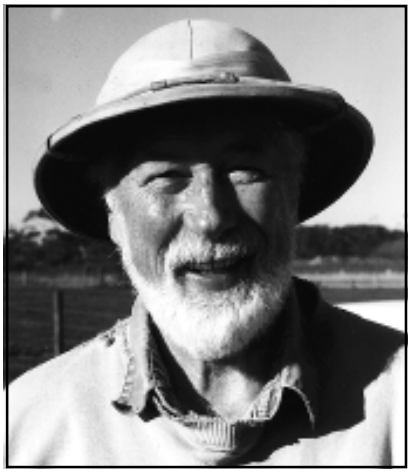
Meeting #86 (AGM) Thurs 24th July, 2003, 7:30pm
Saturn Hobbies, 17 Ardena Ct., Bentleigh East.
(Melway 68 J-12) off East Boundary Road.
Meeting #87, Thursday 25th September, 2003
Meeting #88, Thursday 27th November, 2003
Meeting #89, Thursday 22nd January, 2004

Editor's Report:

Gentlemen, we have an interesting report this issue which comes just before our SAM 600 Annual General Meeting (AGM).

As you know from the last issue #85 of "The Thermaleer" a double-sided ballot paper was distributed, and at the next meeting (AGM) the Acting Secretary will declare the results of the election of Office Bearers. He will also report on any rules changes that have been successfully carried by a vote of members.

According to our current rules change procedure, our new rules will be in force for the next five years. If the MAAA 2002 rules are accepted they will override the current SAM 600 rules and make the SAM 600 Rules Change Procedure obsolete. We will then be completely in the hands of the MAAA and whatever changes they implement now or in the future. (Whether the MAAA will allow any democratic procedure will be largely in the hands of the MAAA Old Timer Rules sub-committee, Chaired by our immediate past President, Kevin Fryer). We wish Kevin the best of good fortune in this regard.



At the recent SAM 1788 Easter Competition at Canowindra they made several changes to their rules, one of which will have an impact on some of our contest members (Note: Barry Barton was 'spoken to' at Canowindra, and several SAM 600 members, including your editor, have Playboy Cabins with rounded windscreens). I refer to the definition of the construction of the "Playboy Cabin".

The following letter, which represents my views alone and not the committee of SAM 600, has been sent to Don Southwell, Editor of the SAM 1788 "Duration Times". It is fairly self explanatory.

Don Southwell, Editor "Duration Times"

Dear Don, I note that in the recent March-April issue #121 of "Duration Times" there is a motion contained in the Rules Committee Report "that Playboy with rounded cabin is not accepted as legal in SAM 1788 competitions".

Whilst each SAM Chapter can do what it sees fit regarding their competition rules I felt it appropriate to provide some background as to what my investigations have shown regarding the planview (seen from above) shape of the "Playboy Cabin".

As reported in the Jan-Feb 2001 issue of "The Thermaleer", during my participation at the Pensacola 2000 SAM Champs I was able to raise the subject with the designer of the Playboy series, Joe Elgin (7 Playboy designs by Cleveland). He said, "you can finish the cabin any way you like as long as the cabin matches the dotted lines on the side or profile view". Over discussions with participants at Pensacola it was confirmed that you can have a square or rounded front of cabin and a square or tapered rear of cabin. You can pull the rear of the cabin in, similar to Roger Hammer's 1937 "Flamingo".

Following the SAM 1788 motion, and before writing this letter, I thought it prudent to check with my sources. Unfortunately Joe Elgin has since died, and so I contacted Steve Roselle, SAM USA Western Vice President in California and Ed Hamler, immediate past Western VP, also from California. Here is the email sent by Steve, the contents of which Ed Hamler agrees with wholeheartedly.

"Hi Peter,

I'll weigh in on this as I had also asked Joe Elgin about the cabin configuration when he was honored at the Muskogee, Oklahoma Champs. He said (as does Ed Hamler below) that there was never a cabin version built to proof the design, but the dotted lines were added as an afterthought, and that "the beauty is that any way you build it is the right way!". I don't remember his exact wording but that was the gist of it.

I don't have the original plans but am looking at the Leisure Playboy plans (582in^2) which purport to be modified from the original Playboy Senior plans. The mods show an enclosed & extended cowl for an electric motor and provisions or rudder & elevator control. The cabin is shown as dotted lines showing the side longerons and vertical braces for the cabin. One can interpret them as a slab sided flat rear fuselage and a flat plate windshield, as is the one I fly in Electric Texaco. The wing on mine features Joe Elgins signature with which I take extra care!

One could also take the forward cabin brace dotted lines as a single (probably centered) brace and form either a triangular windscreen or a curved screen around it.

As to the rear, it can also be built as a tapered fairing. John Pond liked to do that with his PB Cabins.

I am reminded of the great Mystery Man controversy regarding the droppable landing gear that Elbert Weather had designed into it. I believe that the late Jim Adams stepped up and squashed the arguements by either declaring an exemption for this one design, or stating that for SAM competition it could drop no parts. My memory fails me here as to which way he chose. The point being your SAM 1788 might be attempting to put the controversy to bed before it gets to far out of hand.

Personally I think that SAM 1788 is taking a hard line (mistakenly, in my opinion) that might reduce a bit of the fun we all have in SAM competition.

Best Regards, Steve Roselle"

Well Don, there you have it. It would appear that

SAM 1788 determining that round front windows and tapered wing mounts at the rear are illegal (which is your right if you choose to do so) can not be supported by the designer himself or by office bearers of SAM in the USA.

I note that the 3rd placegetter in the ½ A Texaco event at your Easter competition was a rubber model design with a Cox mounted at the front. I'm not sure how this happened but flyers from other states will need to check SAM 1788's rules and interpretations before making the long journey northwards to compete. Some may not care to take the risk.

Regards, Peter Bennett

(The above letter was published in the May-June 2003 issue of "Duration Times").

(Below is an email in response that your Editor has received from Peter 'Condo' Smith).

Good to see someone reads "Duration Times". Could you or anyone else show me where on the top view [bottom drawing] on the "PLAYBOY" PLAN copyright 1941 are the dotted or solid lines to support a curved top? We cannot build model planes or any other structure using a side view only.

In the early 1990's when SAM1788 was going through a tough time [lots of infighting] the then president decided to upgrade the rules, however he left out lots of clauses, one being that all models had to be original IC powered models.

Another was that models had to be built out of wood, ie., no foam wings. SO under our current rules [locked in till after SAM2004] you can power a rubber model with an IC motor. The model should not be someones interpretation of the plan but an exact copy of it.

P.S. Nowhere on the above "Playboy" plan are there windows, only solid sheet balsa. I will be sorry if you or others don't want to make the long journey north, but that will be your loss and my gain, or vise versa. As I did not seek re-election and have resigned as SAM scrutineer after 13years these are MY views and may not represent the views of the SAM 1788 Chapter.

Happy flying, P J Smith.

Minutes of SAM 600 Ordinary General Meeting, 22nd May 2003

Meeting Opened: 7:45pm by Chris Lawson
Apologies: Peter Bennett, Barry Barton, Bob Harman, Peter Hosking.
Visitors: Nil
New Members: Nil
Attendance: 12 members present.
Minutes of Previous Meeting: Accepted .
Moved: Bernie Halstead Seconded: Fred Roberts
Business Arising From Previous Minutes: Nil

Correspondence In:·
SAM 1788, SAM 600 & SAM 84 Old Timer Contest Calendar Planner from Basil Healy.
· Letter from the VMAA containing:-
a) Copy of new CASA rules as pertaining to the flying of model aircraft.
b) MAAA Policy on Frequency Synthesized Radio Equipment.
c) MAAA Policy on 27 Mhz Radio Equipment.
d) MAAA Frequency Directive
· Letter from Northern Flying Group confirming booking of State Field for the 2004 Old Timer State Champs, plus Information Pack.
· Copy of letter sent to Don Southwell of SAM 1788 re the legalities of the cabin shape of the Playboy Cabin.
· E-mail from Ethel Munn (via Trevor Boundy) thanking SAM 600 for our acknowledgement of Bob's contribution to Old Timer & SAM 600 plus a request to remove her from our mailing list.

Correspondence Out:
· Letter to Basil Healy requesting our share of the profits from the 2003 S.A.M. Champs Down Under.
· Letter from Barry Barton tendering his resignation as SAM 600 Secretary.
· Letter from the VMAA acknowledging SAM 600's November decision not to nominate an MAAA Rules Sub-Committee Delegate.
· Copy of e-mail sent by VMAA to Northern Flying Group regarding SAM 600 enquiry to use State Field for 2004 State Champs.
· Minutes of VMAA February meeting.

Business Arising From Correspondence:
· The meeting was asked to confirm their agreement by a show of hands to hold 2004 State Champs at the State Field. The motion was carried in the affirmative.
· General discussion was held regarding the Old Timer Contest Calendar Planner from Basil Healy in reference to the scheduling of major events.

Treasurers Report:
· As Norm Campbell was still in hospital, Chris Lawson gave the following report.
Profit from 2003 Swan Hill event:- $460.00
Current Bank Balance:- $2350.00
Moved: Fred Stebbings Seconded: Mark Collins

General Business:
· Roy Robertson Memorial Trophy has been re-scheduled by P & DARCS to Sunday 6th July. All members present voted yes to this date.
· Interesting discussion was held regarding the legalities of the cabin shape of the Playboy Cabin & modifications to Old Timer models in general.

***Discussion was held regarding the Rules Change Survey in the May Thermaleer & whether or not the vote held at Leopold to drop the SAM 600 Rules in favor of the Current MAAA Rules was legal. As a result of this discussion, the following motion was moved by Brian Laughton:-

SAM 600 Contest Calendar 2003/2004

(Note: Contests start at 10:00am unless otherwise stated).

July 6th 2003	17th Roy Robertson Memorial Trophy Sunday- Texaco & Duration	P&DARCS
October 4th/5th 2003	Eastern States Gas Champs Gordon Burford, Duration, 38 Antique, 1/2 A Texaco, Texaco	Twin Cities, Albury
November 15th/16th 2003	Haddon Oldtimer Fly-in, Ballarat	Haddon
January 24th/25th 2004	18th Roy Robertson Memorial Trophy	P&DARCS
February 14th/15th 2004	4th Leopold Annual Fly-in	Leopold
March 6th/7th 2004	Victorian State Champs	NFG Darrawiet Guin
March 20th/21st 2004	2nd Northern Victorian Champs	Cohuna
April 9th-12th 2004	12th Annual Easter Fly-in Swan Hill	Swan Hill
April 17th-21st 2004	57th MAAA National Champs	WA
May 21st-24th 2004	2nd SAM Champs DownUnder	Cootamundra ???

"That a copy of the current MAAA Rules be posted to all SAM 600 paid up members with a covering letter, stating that these are now the rules that SAM 600 will fly to, as voted for on the 8th February 2003, in accordance with the SAM 600 (Constitution) Rules of Association"

Seconded: Mark Collins. The motion was carried.

<u>Please Note***</u>***: *Opinion appears to be divided as to validity of the vote at Leopold in February to abandon the SAM 600 Rules in favor of the Current MAAA Rules as the SAM 600 Rules of Association & the clauses in the SAM 600 Rules Change Procedure are in conflict with each other; and as such, the issue appears to be a matter of personal interpretation. Therefore, the committee has decided to delay actioning the above motion until this issue is clarified.*

Meeting Closed: 9:10pm

p.s. Rules Change Questionnaire:

I have only received eight (8) replies to the Rules Change Questionnaire published in the last issue of the Thermaleer. If you the members want to put an end to all the discussion & argument about rules, it is imperative that you either post them to me before the July meeting, or hand them in at the beginning of the meeting if you are attending.

Remember, if you do not exercise your democratic right to voice your opinion now, don't complain afterwards when the decisions have already been made & voted upon by those who did bother to respond.

John Whittaker (Acting Secretary)

WebMaster's Report:

During the last 12 months ending 31st May 2003, the SAM 600 of Australia web site has had 2,180 visitors to the site.

At the last printing of mailing labels for Fred Stebbing there were 72 newsletters in total.

This number contained 27 complimentary copies of the newsletter that were sent to sponsors and other SAM Chapters.

TrevorB,

Webmaster SAM 600 of Australia
Model Recognition Page seen at
<www.boundy39.com> SAM359L

South Australian State Champs
Monato Flying Field 3rd - 4th May 2003

Good weather, except some rain and wind for Duration

Texaco (Sat am)

1st	Stan Gurr	85% Bomber	Enya 41	3736
2nd	Don Howie	85% Bomber	Enya 41	3403
3rd	Chris Lawson	Lanzo Racer	OS 40	3402
4th	Chris Britcher	90% Bomber	Enya 60	3289
5th	Peter Bennett	100% Bomber	OS 60	3268
6th	Ian Promnitz	Lanzo Bomber	OS 60	3258
7th	Peter Leaney	Airborne	OS 60	3168
8th	Ron Adamson	Lanzo Bomber	OS 61	2400
9th	Rex Brown	85% Bomber	GB 5cc di	2396
10th	Bill Britcher	Anderson Pyl	OS 60	2388
11th	Mark Robinson	Bomber	OS 60	2277
12th	Peter Hosking	85% Bomber	Saito 65	2272
13th	Ivan Stacey	Lanzo Bomber	Saito 50	2164
14th	Rod Spurrier	Bomber	Enya 53	2137
15th	Fred Stebbing	Rambler	Irvine 40 d	1800
16th	David Markwell	90% Bomber	OS 60	1800

Duration (Sat pm)

1st	Ron Adamson	94% Cumulus	McCoy 60	2013
2nd	Chris Lawson	Vespa	McCoy 60	1892
3rd	Stan Gurr	85% Bomber	Enya 53	1888
4th	Rex Brown	Super Quaker	McCoy 60	1852
5th	Bill Britcher	Atomizer	Saito 56	1260
6th	Peter Bennett	110% Josephine	YS 53	1163
7th	Mark Robinson	Super Quaker	YS 53	1138
8th	Ivan Stacey	85% Bomber	K&B 40	1023
9th	Brian Stebbing	Stardust Spl	Thund T36	606
10th	Fred Stebbing	Playboy Snr	Thund T36	334
11th	Peter Leaney	Playboy	McCoy 60	330

Photos, from the top:

Texaco:
Stan Gurr (centre) 1st.
Don Howie (left) 2nd.
Chris Lawson (right) 3rd.

1/2 A Texaco:
Brian Stebbing (centre) 1st.
Chris Britcher (with "Spooky") 2nd.
Don Howie (left) 3rd

Duration:
Ron Adamson (centre) 1st.
Chris Lawson (left) 2nd.
Stan Gurr (right) 3rd

1/2 A Texaco - Cox 049 (Sun am)

1st	Brian Stebbing	Stardust Special	1950
2nd	Chris Britcher	'39 NZ Texaco	1713
3rd	Don Howie	Cumulus	1711
4th	Peter Bennett	Red Ripper	1577
5th	Bill Britcher	Red Ripper	1571
6th	David Markwell	Playboy Cabin	1555
7th	Chris Lawson	Lanzo RC 1	1554
8th	Bob Watson	Atomizer	1531
9th	Rex Brown	Stardust Special	1525
10th	Fred Stebbing	Stardust Special	1286
11th	Peter Leaney	50% Bomber	1271
12th	Stan Gurr	Lanzo RC 1	1102
13th	Ron Adamson	Atomizer	1080
14th	Peter Hosking	Lanzo RC 1	1053
15th	Ray Bobrige	Kerswap	720

Gordon Burford 2.5cc Diesel (Sun pm)

1st	Rex Brown	Stardust Special	PB	1797
2nd	Fred Stebbing	Swiss Miss	BB	1547
3rd	Peter Bennett	Atomizer	PB	1397
4th	Don Howie	Strato Streak	PB	1367
5th	Chris Lawson	Zephyr	PB	1335
6th	Bill Britcher	Jaded Maid	PB	1273
7th	Peter Leaney	Fifteen	PB	1099
8th	Ron Adamson	Foote Racer	PB	900
9th	David Markwell	Atomizer	PB	893
10th	Ian Promnitz	Bomber	PB	582
11th	Bob Watson	Mallard	PB	300

Max Starick Perpetual Trophy Winner

(based on number of contestants beaten)

1st	Chris Lawson	36 points
2nd	Peter Bennett	35 points
3rd	Don Howie	33 points

Above: *Don Howie with his George Fuller "Stomper". Early 50's F/F with a PAW .149 diesel.*

Gordon Burford Event, photo below:
Rex Brown (centre) 1st.
Fred Stebbing (right) 2nd.
Peter Bennett (left) 3rd.

Duration: *Won by Mark Collins, centre.*
Second, Peter Bennett on right with Robert Taylor third, on left.

Texaco: *Won by Mark Collins, centre. Second ,*
Trevor Boundy on the left with Ian Robertson third, sown right.

Results and report of the 17th Roy Robertson Memorial Trophy Flown at P&DARCS July 6, 2003

Name	Model	Motor	cc	Score	Place
Texaco					
Mark Collins	Bomber	OS60fs	21	2097	1
Trevor Boundy	Westerner	OS60fs	21	2006	2
Ian Robertson	Bomber	OS60fs	21	1928	3
Fred Stebbing	Rambler	Irvine40	8	1203	4
Peter Bennett	Record Brk	Irvine40	12	1181	5
John Whittaker	Bomber	OS48fs	15	1062	6
Danny Missen	R Breaker	Enya53	18	1050	7
Steve Gullock	Polly	OS52	15	771	8
Chris Lawson	Lanzo RB	OS40	12	759	9
Robert Taylor	Cumulus	OS61fs	15	404	10

Name	Model	Motor	sec	Score	Place
Duration					
Mark Collins	Cumulus	McCoy60	30	1452	1
Peter Bennett	Josephine	YS53	25	1448	2
Robert Taylor	Cumulus	YS63	25	1332	3
Steve Gullock	Dallaire	OS46fx	25	1312	4
Ian Robertson	Playboy	Saito65	30	1304	5
Trevor Boundy	S Quaker	Saito65	30	1282	6
Chris Lawson	Vespa	McCoy60	30	1265	7
John Whittaker	S Quaker	McCoy60	30	840	8
Danny Missen	Dallaire	OS25fx	25	690	9
Fred Stebbing	Playboy	TT 36	25	166	10

Against a background of concern regarding the official weather forecast of high winds strengthening to 20 to 25 knots with gusts exceeding that a gathering of intrepid flyers, who were all suffering from withdrawal symptoms due to the lack of contests, gathered at P&DARCS on July 6, 2003 to see whether or not we would get to fly.

With some trepidation the first Texaco aircraft took to the air, and much to everybody's amazement the planes handled the conditions very well. The wind strength was "on the edge" gusting over 7 at times but conditions slowly improved during the day which meant that the Duration event was completed without any problems.

Mark Collins took the Trophy for the third time in a row, no mean feat given the competition. Congratulations Mark, consistence wins.

Report from: Domenico Bruschi
1st European RC SAM Champs

Hi fellas, here are the results of the 1st European RC SAM Champs:

Texaco

1. Lustrati Silvano, Pilade	1800 + 1139
2. Ridenti Giovanni ,M 18	1800 + 1138
3. Ciavatta Erio, Airborn	1800 + 1116

1/2A Texaco

1. Serva Simone, Kerswap	1200 + 794
2. Zenere Giorgio, MG 2	1200 + 737
3. Lustrati Silvano, Almo 7	1200 + 675

1/2 OT Electric

1. Spisni G.Franco, Il Nettuno	1200 + 1353
2. Bussmeier Leo, Playboy	1200 + 1225
3. De Marco Sergio, Kerswap	1200 + 991

OT Electric

1. Lusso Gianfranco, Playboy	1200
2. Lusso Gianfranco, Wog	1200
3. Bussmeier Leo Red Ripper	1006

OTMR (LER gasmodels)

1. Bruschi Nick, Sailplane	1260
2. Bekins Don, Playboy	1219
3. Hamler Ed, Airborn	946

NMR (Nostalgia)

1. Hamler Ed, Airborn	859
2. Bekins Don, Honey B	809
3. Romagnoli ,Gigi Firecracker	766

OTVR (OT Gliders)

1. Bekins Don Thermic, 100	793
2. Baldinini Antonio, Penna Bianca	749
3. Gennari Luca, Thermic 100	591

108 models were entered in the contest held over the weekend with flyers coming from :

Italy - San Marino - Switzerland - Slovenia - Germany - Czech Republic - Austria - USA

Next European Champs will be held in Germany in 2004 followed by the Czech Republic in 2005.

Regards to all, Nick

POWERMASTER

FACTS ABOUT FUEL No. 4 - 2-Stroke vs. 4-Stroke Fuels Is There Really A Difference?

(The following is the fourth in a series of articles exploring all facets of model engine fuel. The writer is Don Nix, Past owner of Powermaster, inc.)

Well, what do *you* think? Is there really a difference, or is this merely a big hype by the fuel manufacturers to sell more products? Let's see a show of hands…..ah, yes…about evenly divided. Well, let's explore the *facts*.

Fact: Most 4-stroke model fuels contain less oil than comparable 2-stroke fuels.

The most common response to this is, "But 4-stroke engines have more moving parts….they should need *more* oil, not *less!"* Well, that sounds reasonable, but it doesn't stand up under close examination. The number of moving parts has nothing to do with it. What *is* important? Think about it.

Fact: With rare exceptions, 4-stroke engines run at substantially slower rpms than a comparable 2-stroke engine…most in the under-10,000 rpm range vs. 12,000, 13,000 or more for a typical 2-stroke of the same size. They are engineered to deliver maximum power at slower rpms, with bigger props. What does this have to do with it? One of the main factors used in determining the proper oil content of fuel is heat. To use the well-worn term, it doesn't take a rocket scientist to figure out that the more slowly an engine turns, the less heat it generates from friction. If you don't believe that, rub your palms together slowly, then as fast as you can.
So….lower rpms = less heat = less need for oil.

Fact: 4-stroke engines only fire every other stroke, vs. every stroke by a 2-stroke engine. Firing, or combustion, burns fuel, which creates heat. Logically, it may be deduced that if there is fire in the chamber only every other stroke, the engine has time to cool off a bit between combustion cycles. Let's take that a little further: Using a hypothetical 4-stroke engine turning 10,000 rpm = 5,000 combustion cycles per minute, vs. a hypothetical 2-stroker turning 13,000 rpm…with the same number of combustion cycles per minute….the gap widens. The 2-stroker has *160% more combustion cycles* than the 4-stroker. Even though this is partially offset by the fact that at least some 4-strokers have a higher exhaust gas temperature, the message is clear: 4-strokers remain cooler, and need less oil.

Fact: Oil doesn't burn (or shouldn't) - methanol does. Using a little logic, we arrive at the conclusion that a properly made 4-stroke fuel will deliver better performance than a 2-stroke fuel in the same engine.

Why? Remember…the 4-stroker is only firing every other stroke. This results in the plug element wanting to cool down between strokes, resulting in a "colder" plug. Excess or unnecessary oil, constantly dousing the element, is going to make it more difficult to achieve a slow, smooth idle. Those who contend that, "Well, using too much oil can't hurt anything" are wrong. In addition to causing undue friction in the engine, keeping the metal parts from properly mating, etc., too much oil in 4-stroke fuel is constantly trying to cool a plug element that is already having problems. Sort of like pouring a bucket of cold water on a poor guy who is already shivering.

Again, since oil doesn't burn, it's doing nothing to help us develop power….it simply lubricates and goes right out the exhaust and all over everything. *However,* suppose we *don't* put unnecessary oil in the fuel, and replace it with methanol, which *does* burn. Well, what do you know…greater top end power! Hey, I think we're on to something here! Remove unnecessary oil from 4-stroke fuel, and we get a "twofer" - two benefits for the price of one….a slower, more reliable idle plus greater top end power!

Conclusion: For reasons that should be clear above, a properly blended 4-stroke fuel

should deliver better all-around performance in a 4-stroke engine than a regular 2-stroke fuel in the same engine.

While it's not going to actually harm anything to run 2-stroke fuel in a 4-stroke engine, *never, ever* run 4-stroke fuel in a 2-stroke engine. It's not going to have enough oil. Now, for those of you will say that you have done it with no problems, I'll agree…..if you have a real good ear and keep the needle valve "fat" (rich), it will probably work just fine…but the official word is DON'T! It reduces your margin of error unacceptably.

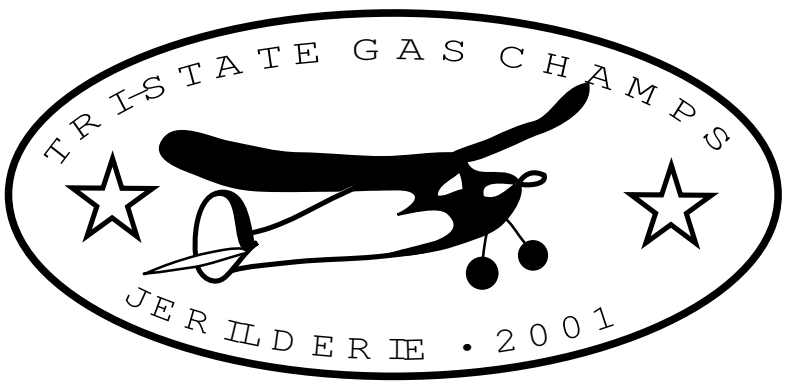
Finally: Because engine manufacturers have been burned in recent years by some fuel makers' attempt to lower the cost of their products by using either too little oil or a cheap grade, most manufacturers today are recommending that you run a 2-stroke fuel only in their 4-stroke engines, or will specify what would seem to be an abnormally high oil content (and it probably is). Who could blame them? Since they know they have no control over the oil used in someone else's fuel, they're just trying to cover their fannies. So would I.

Note: I believe it's commonly known that the manufacturers of YS engines…among the most powerful 4-stroke engines available….mandate that only fuels containing oil contents in the normal 2-stroke range be used. Their engines are unique, and the manufacturer's recommendations should be followed, although, as with anything, there are exceptions.

This is one of my favourite old aeromodelling books, Model Aeroplanes by F.J. Camm published in 1920 (this is the 1922 reprint). I started drawing plans for the model on the cover (which doesn't appear in the book) but got stuck when it came to the fin, I have no idea what shape it should be as it's obscured by the gentleman's head!

It looks like it would be quite a good flyer, I especially like the long under skid to protect the valuable prop, reminiscent of some full-size trainers of the day like the Avro 504. The book was continually revised and republished until at least 1938.

Graham in Shepperton, England



Whatever happened to the Tri-State Gas Champs at Jerilderie ?

From SAMTalk 3 June 2003

Ed Shilen et al. The necessary dwell angle is different for each engine. A high speed engine, like McCoy requires more angle, and a Brown requires less.

When the points first close, battery voltage is applied to the coil primary winding. The current in the circuit starts at zero and increases exponentially (but we can consider this to be linear for the time being). The magnetic flux in the core must reach the saturation level before a spark can be generated (when the points finally open).

The time required for coil saturation is influenced by the coil itself, and the applied battery voltage. Of course, "time required" also depends on the dwell angle and the RPM.

For a given battery voltage, coil, and RPM, the dwell angle is thus specified by mechanical design. Since dwell angle is not readily adjustable, the high speed limit can be increased by raising the battery voltage or by using a coil with a lower Ohmic resistance in the primary winding. (faster saturation time).

Many users of spark engines are still trying to get along with two Alkaline cells. On a good day, with fresh cells, the no-load terminal voltage of a pair of alkalines is 3.0 volts. Under the heavy load of spark ignition, this might drop to about 2.7 volts. This is OK as long as the engine has adequate dwell angle.

But three NiCd cells will have a terminal voltage of 3.6 volts under load, and this will not drop much if they are fully charged and in good condition. So the ratio of alkaline to NiCd terminal voltage under load will be about 75%. This means that your coil will require more time with alkalines to reach saturation with only 75% of desired voltage. The result might be "stuttering" at high speed due to insufficient dwell time, although low speed might run OK.

Remember that the energy delivered to the coil varies as the square of applied voltage. Therefore, a low battery voltage of 75% of the desired value results in a 50% reduction of energy per unit time delivered to the coil.

So, many to spark ignition problems can be solved by using 3 NiCd cells. Now, three NiCd cells of 270 mAh will weigh the same as two AA alkaline cells, and will certainly perform better, and should run for about 10 minutes between charges.

As Walt Huhn recently observed, many OT models have to be ballasted with lead weight to make the minimum weight requirements. So why not use larger batteries?

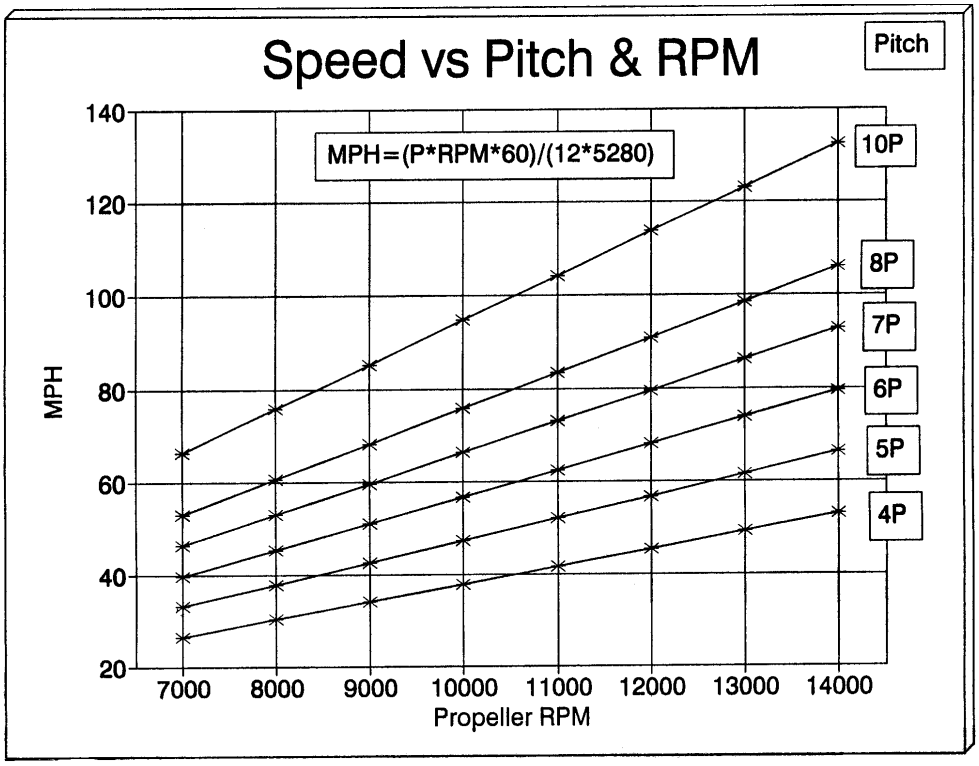
Floyd Carter
Aero Ply Research Co.
87211 Louvring Ln. Eugene, OR 97402

Propellor Graphs

Roy Bourke, MAAC 204L

How fast does your aircraft fly ?? The speed an aircraft flies in level flight is determined by many factors; the airfoil, wing loading, decalage, drag, air density, etc. etc. All of these parameters are specific to each aircraft. And the pitch of the propeller used on the aircraft, together with its speed of rotation, must bear an appropriate relationship to the aircraft's flying speed. If the combination of pitch and speed is too low, the propeller won't be able to "keep up" with the airplane. If too high for the speed and drag of the aircraft, the prop will be very inefficient, create torque and waste power without producing appropriate thrust.

We may be able to get a rough estimate of the speed of an aircraft from the pitch and static speed of the propeller if we make some assumptions. First of all the rpm of the prop will be higher in flight than under static conditions, due to the forward speed of the aircraft. At the same time, since air is a fluid medium, there will be a certain amount of slippage as the propeller tries to "bite" the air. So let's assume that the aircraft is relatively clean aerodynamically, that the prop will unload in flight resulting in an increase in rpm of about 10%, and will also slip about 10% due to inefficiency and the drag of the airplane. (These are big assumptions, I know, but this is only an approximation!) The unloading and the slippage factors will cancel each other out (they act in opposite directions), and the resultant



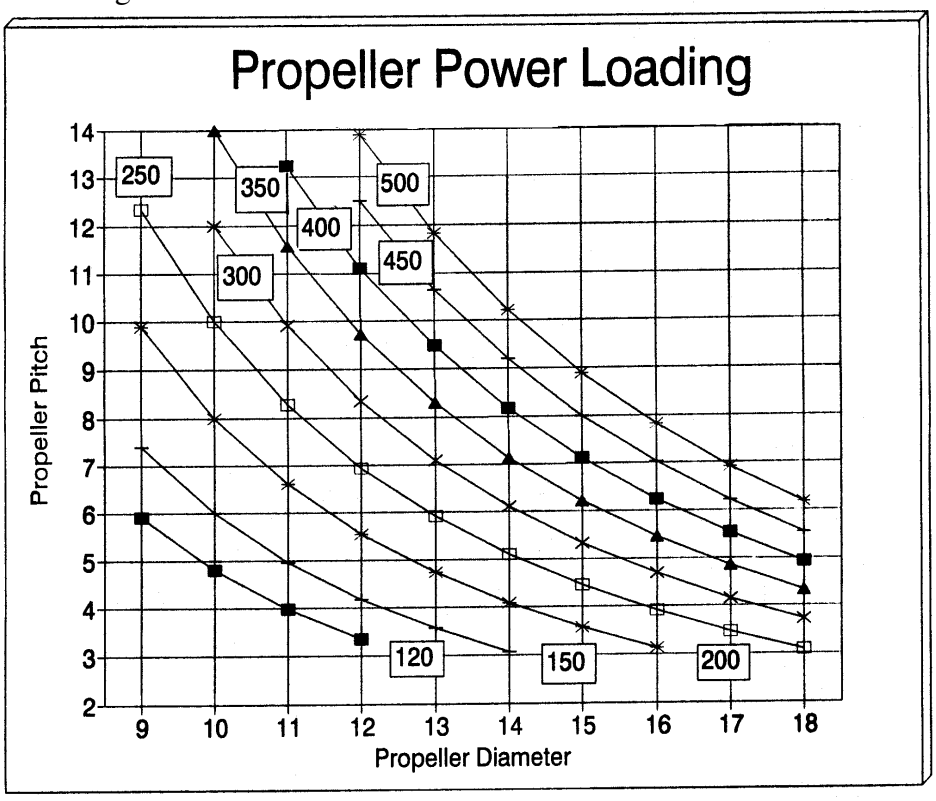
speed at which the aircraft flies may be calculated using only the rpm under static conditions and the pitch of the prop.

The graph labelled "Speed vs. Pitch and RPM" gives you this approximation of speed of an aerodynamically clean aircraft in level flight with various propeller pitch / rpm combinations. For example from the graph, a "fairly clean" aircraft with a motor swinging a 6" pitch prop at 9,000 rpm on the ground should fly at about 50 mph in level flight. Of course, a "draggy" aircraft will cause a higher slip, and will fly slower. (And a very sleek aircraft with high wing loading that "wants" to fly faster than this won't be able to fly level because the prop can't travel fast enough!)

The other graph labelled "Propeller Power Loading" shows a family of curves that represents propellers of various diameter-pitch combinations that operate at the same power loading. The power loading values represent the theoretical volume of air swept by one revolution of a propeller with a given diameter-pitch combination.

Suppose you have an aircraft equipped with a 14-6 prop, and you want to find an alternate prop size that will operate at the same power loading. From the graph, the 14-6 prop operates on the power load curve labelled "300", so moving along the "300 curve" tells us that a 13-7 or a 17-4 prop should yield the same power loading. This may allow you to select a prop that better suits the power system or the design of the aircraft. *(The graph shown was produced by Ian Paisley of the Aurora Model Aircraft Club).*

Note: from Don Blackburn SAMTalk. Pitch {inches} x RPM divided by 1056 = Airspeed.



"The Thermaleer" is the official newsletter of SAM 600 of Australia. Victorian R/C Old Timers Association (SAM 600) Inc.

Domenico "Nick" Bruschi, whose report on the results of the successful 1st European RC SAM Champs is on page 9 of this issue.

Nick is shown at left with his Lanzo "Bomber". A beautifully finished model.

Nick won the OTMR (LER Gas models) event flying a Carl Goldberg "Sailplane".

In 2nd and 3rd places were Don Bekins with his "Playboy" and Ed Hamler "Airborne", respectively. Both Don and Ed are both from California and flew especially to Italy for these inaugural European RC SAM Champs.

I understand that any Australian SAM members are most welcome to attend the 2004 event in Germany.