The Australian Thermaleer

Information, Competition Results and Articles for Australian SAM Chapters and Groups

Issue No.13 **October - December 2022**

SAM 600

SAM 1788

SAM 270
WESTERN AUSTRALIA

S.A. OLD TIMER ASSOCIATION
SAM 1993

VINTAGENTS
SAM 84 Queensland

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"The Thermaleer" is the official newsletter of SAM 600 of Australia, Victorian R/C Old Timers Association (SAM600) Inc.

SAM 600 PRESIDENT'S REPORT.
From Steven Gullock

Hi peoples,

I hope you all have a good Christmas day, New Years day and Australia day with holidays in between.

The rain we have had has been incredible with many a wet flying field for most flyers.

Good to see electric antique gliders are getting a good and increasing following, much better than having to cart winches to the flying field and the folding props are a bonus by having a good glide and still having almost the original look around the nose.

I am curious to know how you feel about folding props on our other electric classes such as Texaco and Duration as my ESC brake doesn't stop my prop and a fanning prop creates drag

Our next competition is at P & DARCS in February in which we must hold our AGM, lets all hope the weather is as good as last year was at the Roy Rob.

Regards,
Steve Gullock.

The April 1937 issue of Flying Aces featured a construction article on this 9 foot span "Champion" gas model, designed by the great Ben Shereshaw. Red Barrows built this blue and yellow Monokoted R/C version from John Pond plans. Had a 24 minute flight in Taft Texaco event. (Plug Sparks January 1974)

Trevor Boundy, erstwhile WebMaster of SAM 600 Australia, starts his Gordon Burford model "Eliminator" before its test flight. "Eliminator", 50 inch span, Burford plain bearing 2.5cc diesel. Wings covered with SAMspan on top, Mylar sprayed black inside under.

SAM 600 CONTEST DIRECTOR'S REPORT.
From Kevin Fryer

Season's Greetings to All,

We have seen another three months of no competitions because of bad weather or lack of flyers.

As of the 1st January 2023 the new MAAA rule changes will apply to all of our competitions, the main changes that will affect us are the fuel allocation rules and the engine run times.

1/2A Texaco now allows engines other than Cox's to compete. They must be no larger than .049 and only glo plug ignition. Their tank must be 5cc and be filled with a syringe like the larger Texaco models.

All Burford engines in the Burford event now get 40 seconds engine runs.

Old Timer Duration engine runs have changed:

Two stroke glo engines get 20 seconds.
Antique glo & pressurized four stroke engines get 28 seconds.
Antique spark & naturally aspirated four stroke engines get 32 seconds.

Texaco fuel allocations have also changed:

Antique spark & diesel engines get 4cc
Four stroke spark engines get 1.5cc
Diesel engines get 3cc
Four stroke engines using club fuel get 3cc
Four stroke engines using own fuel get 2cc

These are the changes that will affect us the most. There are also changes to other events that we don't run in Victoria such as 2cc, Nostalgia, Standard Duration & Old Timer Glider and if you are intending to fly these events I would suggest you look up the MAAA web site and go through the 19 pages of changes.

As a matter of interest when we went to the SAM Champs in the USA in 2007, I won their Texaco event with a Cumulus fitted with an Irvine diesel engine that was given to me by the late Bob Muntz when he was visiting us in Australia. This week I have fished it out and fitted it to my Bomber in place of the OS60 open-rocker four -stroke engine and ran it on my standard diesel fuel and it gave 400 more revs than the OS engine and it ran for five minutes more. So if you have a diesel it looks like its value has just gone through the roof and your open rocker has plummeted in value. I don't know what this is going to do to CASA's height limits as it seems the other fuel allocation changes were put in the rules to reduce heights.

As I have nothing else to report I will wish you all and your families a very Merry and safe Christmas and see you all at P & DARCS in February 2023 and fervently hope we get better weather in the New Year.

Kevin Fryer.

SAM 600 Contest Calendar 2023

SAM 600 AUSTRALIA
Victorian Old Timers Association Inc.
1/33 Manikato Drive
Drouin Vic 3818

Contests commence at 9am, unless otherwise stated.
The 2022 MAAA Rules apply
The CD for all SAM600 events will be nominated on the day of the event.
General Meeting ?
All 1/2A Texaco events will be Electric unless specified. (except State Champs & Nats)
Duration & Texaco events will have the electric equivalent (except State Champs & Nats)

February 26th	**P & DARCS Cardinia 10 am** Sunday: Roy Robinson Trophy Texaco, Duration.
March 18th - 19th	**Ballarat** Saturday: 1/2A Texaco, Burford, Duration. Sunday: Texaco, '38 Antique.
April 5th - 10th Easter	**West Wyalong** SAM Champs Down Under. 41st SAM 1788 Old Timer Championships.
May 20st - 21st	**Echuca** Saturday: 1/2A Texaco, 'Burford, Duration. Sunday: Texaco, '38 Antique.
June 17th - 18th	**Cohuna Vic / SA / NSW Champs.** Saturday: 1/2A Texaco, Duration, Burford. Sunday: Texaco, '38 Antique.
September 9th - 10th	**Cohuna** Saturday: 1/2A Texaco, Duration, Burford. Sunday 8.30 am AGM Meeting, Texaco, '38 Antique.
October 7th - 8th	**Echuca Tri-State Champs (SAM 600 Competition)** Saturday: 1/2A Texaco, Duration, Burford. Sunday: Texaco, '38 Antique.
November 11th - 12th	**Cohuna "Steve Jenkinson Memorial Trophy".** Saturday: 1/2A Texaco, Duration, Burford. Sunday: Texaco, '38 Antique.
November 26th	**Ballarat** 1/2A Texaco, Texaco, Duration.

A BLAST FROM THE PAST.... Thermaleer November 1991.

VOTA SAM 600 President's Report - November 1991

As this will be the last report for 1991, and our next meeting the last for this year also, I guess this report really should be one on the activities of the year. However, previous issues of this newsletter have reported adequately on what has happened I feel. So this report will deal more with what is coming up and what we should be thinking about doing.

I realise there has not been as much activity for old timers as we would have liked but economic circumstances must take some of the blame for this. Retired people trying to live on income from investment will tell us how they have suffered drastic reductions in income without any compensating reduction in prices. Those of us still in the workforce (I have finally realised you don't have to be old to fly old timer aircraft or to belong to a chapter of SAM), can readily tell of the extreme effort required simply to get by these days.

In my own case I have experienced savage pressure to make ends meet. This in turn has meant that at times I have not been as active in VOTA SAM 600 as a president should be - nor have I been able to fly as much as I would have wished. I apologise for this but give much thanks for a most supportive committee. Ted Hall, Ian Triffitt and Peter Donovan do a damn fine job. Thanks people.

As stated elsewhere in this issue, our next meeting will be held on Friday November 29th, 1991 at the SEC Energy Business Centre in North Road, Caulfield as usual starting at 07:30 PM. There will be light snack food provided beforehand, I believe, so come early and let's eat together. I have obtained a rather special video to show too. It is a collection of old news reel footage on aircraft and aviation related matters put together from and by the archives section in Canberra - a rare and not normally available video. Don't miss it.

By the time you receive this newsletter you may have attended, or missed, the Futaba Trophy Days where clubs put up teams to compete in 10 events for what is in effect the club championship of the VMAA. In fact, there is a suggestion that The VMAA Trophy sponsored by whoever - probably Phoenix Ibis as Tony Cincotta initiated, and has supported, the event since it first began.

Anyway the Futaba Trophy, or whatever it is called this year, Is on Saturday 23rd, and Sunday 24th, November 1991. Old Timer Duration will be held on the Sunday starting at 9:30 AM.

The next event of particular interest to us is the P&DARCS 25th Anniversary Celebration Fly In to be held on Friday December 27th, 1991 to Wednesday January 1st, 1992 inclusive - a sort of Claytons Nationals. Full details are available from Chris Caulcutt, 66 Thomas Mitchell Drive, Endeavour Hills, 3802. Phone home 706 2305.

They are holding 28 events at the last count so it should be a big fly in. Old Timer events are Vintage Stunt on Sunday December 29th, 1991 from 10:00 AM, Old Timer R/C Duration on Monday December 30th, 1991 from 08:00 AM to 01:00 PM, and Old Timer R/C Texaco on Tuesday December 31st, 1991 again from 08:00 AM to 01:00 PM. A great way to see out the New Year. (I wonder if we can get Graham Sinclair to come down and land in time for the New Year's Eve Party).

The first event of interest to us in the new year is of course the Roy Robertson Memorial Trophy. This will be held as usual at P&DARCS field on Sunday January 26th, 1992 and Monday January 27th, 1992 with most likely Texaco on the Sunday and Duration on the Monday to have a chance of an earlier finish to allow country people to make an earlier start for home. However it is a P&DARCS event and they will decide the order of events. I suggest you check with P&DARCS contest co-ordinator Rolly Gaumann on home phone (059) 68 3791. (Ted Hall please note!).

It would probably be a good idea to have our January meeting on the Friday before the Roy Robertson Memorial Trophy. This would be the 24th January 1992 and we will go firm on that date now unless the next meeting changes it.

This leads us on the 45th Nationals. These will be held at Waikerie on the Murray River in South Australia on Wednesday April 22nd, 1992 through Tuesday April 28th, 1992 inclusive. Old Timer processing is on Friday April 24th, 1992, Duration is on Saturday April 25th, 1992 and Texaco is on Sunday April 26th, 1992.

A special note. Frequencies available for the Old Timer events are 29.885 up, 36.300 up and 40.695 ONLY. This is quite normal at South Australian Nationals apparently.

As for what we need to be thinking about, we need to decide on whether we should incorporate or not, (This need not be expensive nor complicated. Almost every club and association in Australia is now incorporated - both inside and outside Model Aviation. This simply protects the committee and the members from the possible disastrous results of the over enthusiastic litigation around the world today.

We need to consider also whether we should seek a local flying field of our own. This could provide a permanent place for us to fly our particular type of models without interfering with other types of flying but would involve us in some expense.

Please consider these points and let us discuss them at the next meeting. See you there.

Derry Brown.

1. Goldberg's classic, the Valkyrie. This one by an unidentified modeler at the 1966 SAM Champs, Bong.

2. Talk about love of labor! Wing construction typical of the 2000 pieces required to build the Valkyrie as originally designed.

From Model Builder Magazine - May, 1985

PLUG SPARKS

By JOHN POND

• Carl Goldberg is dead! Starting off a column with a shocker like that may not be in the best taste but modelism has lost one of the foremost promoters of the model airplane hobby. Carl left for a better flying field on January 28, 1985, at the age of 72.

Goldberg has been in model flying ever since the early AMLA days, the American League of Aeromodellers, commonly called the "Lindy League," as the non-stop, New York-to-Paris flight by Lindbergh set off a tremendous interest in all forms of aviation.

Carl started appearing in the winners lists as early as 1930 when condenser paper indoor models were king. Although he never won any trip to Europe, the experience gained in those early days was to form the background for his later designs.

By 1932, Goldberg was writing articles for Model Airplane News, outlining the latest trends in AMLA competition models, including his own twin pusher. (In those days everyone flew both indoor and outdoor.) By 1934, Carl Goldberg was the force to be reckoned with in indoor flying.

Leaving New York circa 1935, Carl moved to Chicago, where he joined (and helped make famous) the Chicago Aeronuts.

Immediately after Carl's initiation into the club, an amazing number of good indoor flyers developed, many of them into national champions. Such names as Richard Obarski, Charles Belsky (now Bell) and the 1938 Grand National Champion, Milton Huguelot, readily come to mind.

Although all pictures of Carl Goldberg have disappeared from the writer's voluminous file, this columnist felt the old timer movement was enriched by the number of successful designs that have appeared or have been very successful kits. This month's column will feature these Goldberg models.

4. A typical, uncowled Mk I Comet Clipper built and flown by Al Hellman, shown in proper R.O.G. launch technique. This is a classic, photo, symbolic of O.T. flying.

The most impressive model that Carl Goldberg is remembered for is the huge 10-foot span Valkyrie gas model, an elliptical wing and tail, round fuselage model. Originally conceived by Carl, the Chicago Aeronut team of Frank Nehkimkin, Pete Vacco, Gerald Ritzenthaler (Ritz), and others pitched in to complete the model in time for the 1937 Detroit Nationals. (Ed Note: In those days, there was no BOM Rule [Builder of the Model] and quite a few models flew as a team under one name.)

The lone model not kitted (but published) was that first gas model, the classic Valkyrie as illustrated by Photo No. 1 depicting an unknown modeler at the Bong Field SAM Champs circa 1966. Some idea of the complexity of the model can be seen in Photo No. 2, a Valkyrie wing under construction by Tim Daniels. The redeeming feature of all this work is the marvelous flying characteristics, extremely stable and superlative glide.

This design was followed by a model developed by Alva Anderson (of Anderson Pylon fame) and Carl Goldberg. Goldberg's model, about half the size of the original, was a sensation, especially when one realizes a 48-inch wingspan model powered by a Dennymite .56.

The plans to this hot performing model were taken directly from the original plane now on display at the AMA Museum at Reston, Virginia. If one inspects the model, he will find a Dennymite 56 engine in a 48-inch wingspan model. No wonder they paralyzed the competition!

The design is no fluke, as it has proven itself to be a terrific competitor in O/T R/C events. Don Bekins hit on the idea of doubling the original design and flying it with the latest OS 60 4/c. This model has proven to be an outstanding flyer.

Other modelers were quick to adopt this design as can be seen in Photo No. 3. Flown at the Salt Lake SAM Champs, these models placed in one-two position. Since then, this design has been built exclusively by SAM 30 members.

During this time, Goldberg developed the Clipper. Close inspection will reveal the flying surfaces were a scaled down version of the lost Valkyrie. This writer scaled up a Clipper to 10 ft. wingspan and...surprise! It was identical to a Valkyrie wing less the complicated built-up wing ribs. This ship put Comet in the forefront as a leading gas model kit manufacturer.

Photo No. 4 shows Al Hellman releasing a free flight Comet Clipper at Taft. Probably the most popular choice of engines was the Bunch series of Mighty Midget, Tiger, Warrior, etc. When powered by a sixty size engine, the design defect of two bottom spars made itself evident by folding the wing in loops or very steep banks. To overcome this, most modelers added a compression spar on the top. Many competitors have voiced the opinion this acts as a turbulator spar, but regardless, if you want the wing to hold up, a top spar(s) must be added.

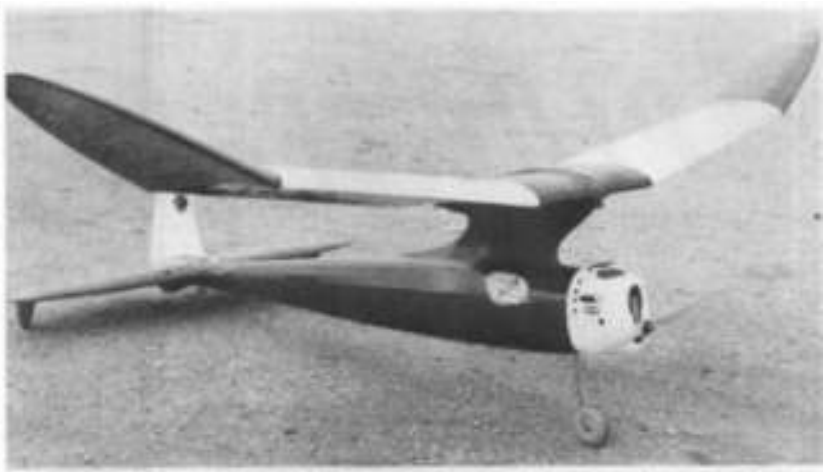
This was rectified somewhat in the

3. A pair of double-scale "Gas Bird" models by Don Bekins (left) and Jim Kyncy.

5. Danny Lutz, impeccable modeler, with a gorgeous Mk II Comet Clipper, seen a few years ago at Taft, California.

6. A standard 1939 Zipper built by Brad Allen, Sacramento. Power is an ignition engine, Little Dynamite.

8. Ouch! Jack Little's .020 powered Zipper just nipped him on the finger. Further comments censored! Augustus pic.



11. Many say it was Goldberg's best, the Sailplane. This one by Jack Albrecht has been terrorizing the troops at O.T. contests.

follow-on Clipper design which this writer has designated the MK-II. Here the slab sided fuselage has been reduced and side stringers added. As can be seen in Photo No. 5, polyhedral has also been added. Most surprising, the MK-II does not seem to perform as well as the MKI slab sider. The model built by that outstanding modeler, Danny Lutz, had no excuses for not outperforming all other Clipper designs. Sad to say, Danny's days of flying are pretty well shot now, as an automobile accident has relegated him to permanent possession of a wheel chair. Rats!

In talks with Joe Wagner, the dean of engine collectors, Joe stated that Comet had considered a MK-III Comet Clipper with lifting tail. However, the tremendous popularity of the Zipper required that all production efforts be directed to the model most in demand.

We are not going to trace the development of the Zipper, as this was well documented by Bob Larsh in a MAN article (before R/C), however, we would like to feature Photo No. 6, showing the standard Zipper as manufactured by Comet Model Airplane Co.

This particular model, seen at a local NCFFC meet in the Sacramento area, is the product of Brad Allen, SAM 21 member. For the benefit of the collectors, forget

10. A standard Comet Interceptor as created by Ed Carroll, at Sacramento NCFFC field.

the Brown "Little Dynamite"; Bob Bowen rescued this one for the engine collectors.

A word about the Zipper. This was the model that made an instant champion of any modeler. The Zipper was so reliable, it could be flown with most any type of engine. This author has seen them overpowered with Ohlsson 60 engines. Goldberg admits to seeing one with a Foster 99 in it! A true complement to the stability of the Zipper!

Of course, there were all sorts of offshoots tried by Goldberg. One of the many is the prototype Mercury (my appellation) as built by Bob Bissett of Baltimore.

7. Bob Bissett's early prototype "Zipper" that evolved into the Mercury.

9. The 1939 Nats and Carl Goldberg still experimenting with high pylons for his prototype Interceptor.

As seen in Photo No. 7, one can easily see the original Gas Bird wing on this prototype. Eventually this design evolved into the Comet Mercury, another good flying design that was overshadowed by the Zipper.

With the Comet Model Airplane Co. riding so high in popularity with its line of Goldberg designs, it was a natural to come out with a reduced version of the Zipper to accommodate the new Atom 09 engine. Seen in Photo No. 8 is the Zipper A built by Jack Little, powered by a Cox 020. Note that Jack just got bit!

Needless to say, the small Zipper A was such a success that Comet built a rubber version called the Zipper Jr., complete with a dummy gas engine that made a buzzing sound to simulate a gas engine!

Not one to rest on his laurels, Carl continued to experiment with higher and higher pylons. Thanks to Bruce Lester (now deceased) for Photo No. 9, we are able to present Carl in 1939 with a proto-

CARL GOLDBERG

type Interceptor. This was the ultimate in light and fast climbing pylon models. Carl finally found out there was a diminishing return of performance as the pylon was raised, finally settling on the design shown in the kit.

For what the Interceptor actually looked like built from the kit, Photo No. 10 shows Lee Carroll in 1962 at one of the early Stockton Old Timer Contests (the original). This photo must be at least 20 years old. Note this Interceptor is the short wing version (4 panels). There was an option on the plan for a flat center section giving five sections.

The Interceptor airfoil marked a radical departure for Goldberg, as the airfoil was a flat bottom 10% type. Naturally, this led to structural problems; one of the hazards encountered in the design.

Finally, in the long string of successful designs for Comet, Goldberg came out with the classic "Sailplane." As seen in Photo No. 11, Jack Albrecht did an excellent reproduction complete to the one wheel fixed landing gear. The original design had a retractable single strut, but experience showed this was unreliable.

The Sailplane design was probably the most popular and long lived of the Comet gas model line. Many of the popular (1946-56) designs can trace their parentage to the Sailplane; e.g., Civy Boy, Satellite, Hurricane, etc. All of the aforementioned models were successful kits.

The Sailplane featured a thick airfoil (of Goldberg design) with a rather large blunt leading edge. Whatever it was, this airfoil worked very effectively, particularly when the model exceeded four pounds of weight.

One of the most popular engine combinations with the Sailplane was the high compression Super Cyke. The model handled this power easily. Early in the game, fellows started producing flat sided Sailplanes, eventually giving way to sheet sides, thus, the Zeek was born as an outgrowth of the simplification of the Sailplane.

We could continue with the list of Goldberg's accomplishments after the war. Working for Top Flite and turning out such free flight designs as the Cumulus, Blazer, and Viking, many a nostalgia modeler cut his eye teeth on these designs.

After all is said and done, we are truly going to miss that easy going, soft spoken Carl Goldberg. His modesty, in spite of all the adulation heaped upon him, was a real eye opener when one talked to him. This writer will truly miss Carl.

SAM ABROAD
AUSTRALIA

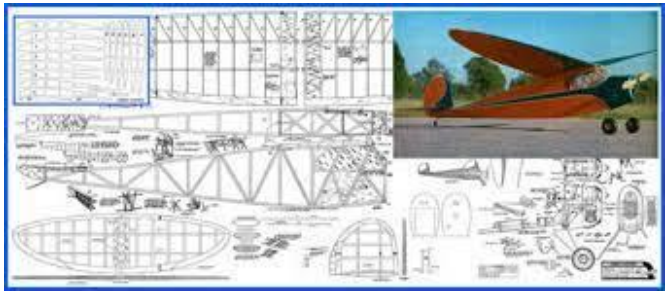
This time, news from Victoria is of a more sombre nature, as the leading spark plug for SAM in Victoria, Roy Robertson, died of a massive heart attack, while on the way to the chemist for the prescription. Ironic!

Roy will be missed by his many friends he has built up in his crop spraying Cessna during the past eight years. He had a terrific flight record with nary an accident, even with his solo flight eastward from Wichita, Kansas, to Newfoundland, Europe, Asia, and Australia!

Monty Tyrell reports the funeral was something else! The funeral procession was massive, requiring the cops to close all side roads. At the grave the Cessna and Beech airplanes in a cross formation (and A.T.C. Permission) buzzed the cemetery at 200 ft. during services, Roy went out in style!

While discussing Australia with Gordon Burford (on a two week visit to the Pond household), we might as well use this slot for a shot of Bruce Knight shown in Photo No. 15. The Scientific Mercury shown with an ED 2.46cc, flew very majestically in real old time style! Might also mention this pic was taken about two-three years ago!

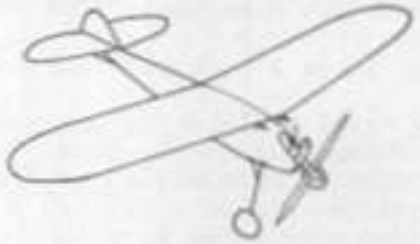
15. Scientific Mercury was underpowered with ED 246 diesel, but Australian Bruce Knight placed 3rd at Aussie Nats.



(B.S.) PRIVATEER

OLD TIMER
Model of the Month

Designed by: Ben Shereshaw
Drawn by: Al Novotnik
Text by: Bill Northrop



In spite of what you may be thinking, the "B.S. Privateer" stands for *Ben Shereshaw Privateer*. And the reason for that title was the realisation that we already have O.T. Privateer!

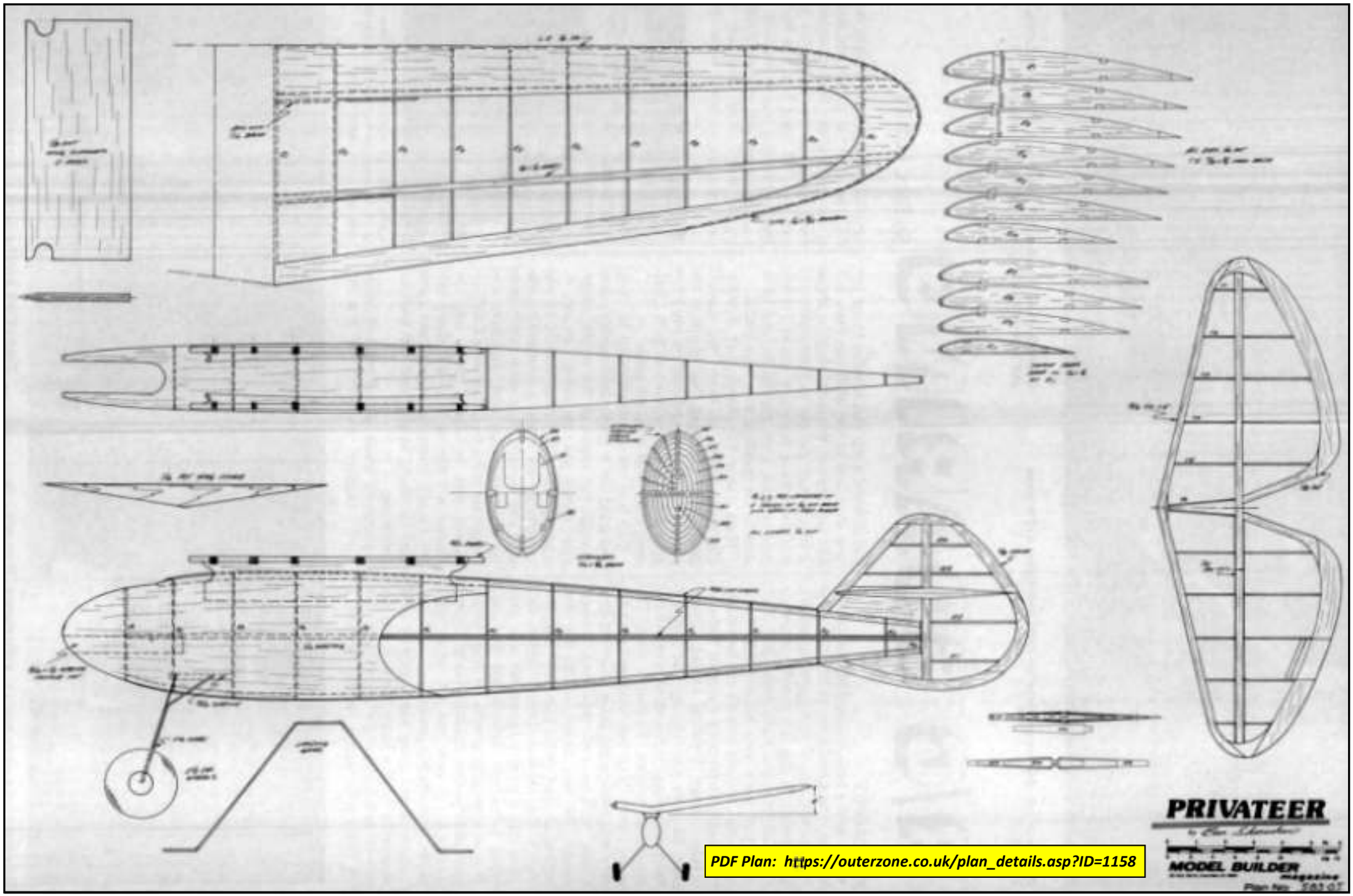
After sending Al Novotnik the material from the September1939 issue of *Air Trails*, to make the full-size plans, something kept bugging me about the model's name. It sounded familiar... like we had done it before. With an O.T. in nearly every issue, the thought of mistakenly repeating a presentation kept coming to mind. As it turned out, I was partially right, and luckily, partly wrong. The Privateer was published... in March, 1979... but it happened to be Thracy Petrides' big seven-foot cabin job!

Typical of many Shereshaw streamliners, the fuselage of the B.S.P. was originally built "in the air", by somehow attaching first the side longerons and then the top and bottoms to the bulkheads... all while keeping everything in perfect alignment.

We'd strongly advise going to crutch-type construction, i.e. build a single frame over the top view, of slightly larger wood sizes, the slip in the bulkheads, and finally add the top and bottom longerons. The forward fuselage is planked with soft 3/32" strips, which, when sanded smooth, will blend in with the rear stringers which protrude 1/16" from the bulkheads. Though shown solid, photos indicate the bulkheads were cored out to about 3/8"-1/2" wide.

Stab and rudder layouts invite R/C conversions. Double spars and straight taper ribs make the job easy. You might want to widen the "V" in the elevators to allow more rudder movement, depending on your flying habits.

The 44" span model, with just over 300 squares, may be flown with Class A or B engines, and with so much scaling up of OT designs going on, we wouldn't be surprised to see some double-size B.S. Privateers this summer.


PRIVATEER
MODEL BUILDER
PDF Plan: https://outerzone.co.uk/plan_details.asp?ID=1158

David Charles OWEN
Inducted into the SAM USA HALL OF FAME 2022

Born 5th July 1943, Wollongong, NSW Australia

Died 17th March 2016 at home.

David Owen passed away peacefully at home with his family around him. After his family, David's great love was model flying and particularly model engines. He had an encyclopaedic knowledge of these model engines, and was always generous and willing to share his vast knowledge.

The model engine world introduced him to like-minded people, many of whom became lifelong friends, not only here but all around the world. Overseas holidays with Celia were often spent visiting people like Emidio Gattafoni and Alessandro Ambrosi in Italy, Jose Manuel Rojo in Spain, Benno and Hanna Schlosser in Germany and numerous engine makers and enthusiasts in the UK, including John Oliver, Peter Chinn and Ken Croft.

David was a superb engineer and a wonderful raconteur with a keen sense of humour. In addition to selling, servicing and repairing a wide variety of engines, he was involved in the production of a number of different projects. Notable examples including his collaboration with Gordon Burford to produce the GB 5cc diesel (a replica of Gordon's original 'GB1'), and his remarkable high-performance, piston-ported Owen 2.8SP.

David will for evermore be remembered for his last major project, the Owen T2.5 diesel engine, based on the Mk3 Taipan 2.5cc Diesel from 1957-59 by Gordon Burford. It will be treasured by collectors and competitors alike as a truly a great engine. The model engine fraternity has suffered a sad loss as has his many relatives and friends. His name and good reputation will remain in model history for many years.

David, we will miss your fellowship.

Gordon BURFORD
Inducted into the SAM USA HALL OF FAME 2022

Born 3rd August 1919, Adelaide, SA Australia

Died 12th March 2010, Currumbin Queensland, Australia

Gordon Burford was Australia's premier model engine designer and manufacturer. The thousands and thousands of engines he produced and sold under the GB, GeeBee, Sabre, Glo Chief and Taipan names encouraged and sustained aeromodelling in this country for over 50 years.

Gordon was a modeller too, starting with rubber in the early 1930s and progressing to become a very competitive Indoor and Wakefield flyer prior to the Second World War, along with his lifelong friend, Boyd Felstead. Following the war, Gordon (VH-155) pioneered control-line flying in South Australia, alongside other luminaries such as Bill Evans, Jack Black, and Mal Sharpe.

He was a well-known and respected free-flight contestant for many years, before turning his interest to old-timer flying in the mid '70s. He built specialist engines for old-timers and was always on hand to offer advice and assistance to other modellers.

Gordon was known around the world for his engines and modelling expertise, having made several overseas trips to England, France, Italy, and the United States.

Gordon Burford was born in Adelaide on the 3rd August 1919. He grew-up during the Depression years, aiding his father who was a beekeeper. Prior to the outbreak of WW2, he then trained as an aircraft instrument fitter.

In 1942, Gordon married Josie Harding and, into the stable family which ensued, four sons were born. Following the cessation of hostilities, Gordon could see an opportunity to manufacture model aircraft engines in Australia. He initially made just three 5cc diesels based on the Sparey design which had recently been published in England. In 1973 he took the position of Federal Secretary and Treasurer to the Model Aircraft Association of Australia (MAAA)

Gordon loved overseas trips and made friends with people such as Ron Moulton, Peter Chinn, Ron Irvine, Henry Nicholls, John Brodbeck, Duke Fox, Sandy Pimenoff, John Pond and others.

In 1983, Gordon and Josie were granted MAAA Life Membership for their work with the organisation. In 1985, Gordon was awarded the prestigious Paul Tissandier Diploma by the FAI for services to aeromodelling. He also provided unstinting assistance and advice to Aling Li, of the Thunder Tiger company in Taiwan and to smaller engine builders such as the writer. Josie passed away in 1998, ending for Gordon a marvellous marriage which had lasted for nearly 56 years. Finally, Gordon embraced CO2, compressed air and electric power and in his latter years flew small models in a local reserve. He never lost his interest in model engines though, and was always ready to discuss and quietly advise people with a similar interest.

Gordon Burford passed away on the 12th March, 2010, following a fall at his home in Currumbin, Queensland, Aust. He will be greatly missed by all who knew him, who knew of him, or who merely flew models with his engines. We extend our condolences to his sons, Peter, Don, Richard and Mark, to their wives and partners and to Gordon's grandchildren and their families. See also at Wikipedia.

Valedictory speech by David Owen 14th March 2010.

L'AQUILONE SAM 2001

TOMBOY RALLY INTERNATIONAL POSTAL CONTEST

01/07/2022 – 30/06/2023

International Tomboy Rally

We wish to present this competition to all the lovers of this nice model with the only aim of having fun in a postal contest which is organized to provide some fun flying together or at the same time as are all postal contests. The Tomboy Rally wants to prove the performance of this model alongwith the ability of the builder and pilot, without reaching the peak agonism of usual contests and only wishing to fly the model having fun in a relaxed manner. After having carried out some tests we have decided to admit the use of i.c. engines and electric motors trying to reduce the gap between them.

Model

- The 36" or 44" wing span (as per plan Aeromodeller) and 48" (as per Boddington plan or 36 " scaledup) models are admitted:

- - Models may be fitted with floats as per plan (scaled-up for 48" version);
- - no minimum weight;
- - reinforcement or lightening of the structure with respect of the basic outline of the original model are admitted;
- - materials to be used are those found on the plan;
- - plastic covering in place of tissue, silk or other is admitted.
- - More than one person can use same model;
- - Same model can flight in L.G. or float version;
- - Lone fliers can self launch on time

Engine/motors

I.c. engines and electric motors are admitted within the following limits:

36"-44" WINGSPAN

I.C. Engines:

- Any engine with 1 cc. maximum displacement;
- Fuel tank : 3 cc.
- R/C carburettor is admitted.

Electric Motors:

- Any electric motor is admitted with direct drive
- The engine cannot be stopped and started again: the motor must run continually withoutinterruptions till the end of the battery charge or competitor's decision;
- no folding prop is admitted; if a folding prop is used the blades must be held open with a rubber band;
- freely assembled admitted batteries:
- 450 Mah 2 cell LiPo
- separated batteries pack for Rx alimentation is allowed

48" WINGSPAN

I.C. Engines:

- Any engine with 2, 5 cc. maximum displacement;
- Fuel tank : 6 cc.
- R/C carburettor is admitted.

Electric Motors:

- Any electric motor is admitted with direct drive
- The engine cannot be stopped and started again: the motor must run continually withoutinterruptions till the end of the battery charge or competitor's decision;
- no folding prop is admitted; if a folding prop is used the blades must be held open with arubber band;
- freely assembled admitted batteries:
- -500 Mah 3 cell LiPo
- separated batteries pack for Rx alimentation is allowed

Flights and results

- Each competitor may fly as many flights as wished during the admitted period but only the best flight will be considered for the final result.
- Hand launches are admitted.
- The flight time start when the model is released or takes off. The flight time ends when the model lands or hits a fixed obstacle. In case the model flies out of sight the timekeeper will time for 10 seconds after losing sight of the model . Timing will continue if model is seen again or stopped after 10" deducting this time from the total time of the flight.

Awards :

A diploma for all competitors and prizes for the first three in each version rank. Special prize for best flight in float version.

Results

Results, address, photos and technical specification about model must be forwarded to the Organization within the 15th July 2023 to Curzio Santoni (cusantoni@tin.it) or to Gianfranco Lusso (gfl@orange.fr). Many pleasant flights and happy landings to ALL !!!

SPECIAL PRIZE VIC SMEED

SAM 2001 have scheduled an extra Diploma that will be awarded to the best flight in Tomboy floatplane version (36",44" or 48") taking off from water. The Editor will send to the winner a Diploma signed By SAM 2001 President and a bottle of special Italian Wine to drink to Vic Smeed!
Good ROW and fligth

SPECIAL PRIZE DAVID BECKER

The 2012 was the 5° edition of SAM 2001 Tomboy Rally and we have scheduled a special prize for the three best flights obtained with 36" Tomboy F/F. Only engines diesel max 0.75 c.c. shall be used. The other rules are the same for 36" or 44" wingspan type. It is possible to use a R/C Tomboy, however, being this a free-flight contest, the time must be stopped when transmitter is used, since the aircraft model should fly freely from any control from the ground.
Good thermals

DURATION TIMES

Duration Times is the official Bulletin of SAM 1788
SOCIETY of ANTIQUE MODELLERS of AUSTRALIA Inc.
SAM 1788 EXECUTIVE 2022-2023

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Vice President:	Paul Farthing	"Bogwood" 55 Lockwood Rd, Canowindra. NSW 2804.	02 9624 1262.
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Peter van de Waterbeemd 02 6496 4769 George Bishop 0419 196 492 Jim Rae 02 6495 3530
Email for The Australian Thermaleer - peter_condo@yahoo.com.au

SAM 1788 PRESIDENT'S REPORT.
From Peter Scott.

Seasons Greetings to All,

No report on the Parkes Old Timer contest as this event was cancelled. However, on the positive side, we ran all the other Old Timer events during the year. They were all good events.

Please try to support the contests throughout 2023. The first event will be at Orange, no chance of flooding there! Usually goes well, a lovely flying site.

New event for this year is the Hunter Valley Championships, Muswellbrook. We ran this for some years but stopped due to lack of interest. It is up to you. If we get the numbers it will continue.

Age has always been a problem as we get a little frailer with each year that passes. Long time flier, Basil Healy, has decided to hang up his Old Timer flying sticks, but will come to most contests to help and to enjoy the camaraderie. This will be a great help as flying models always has been a case of needing assistance. I think Basil's thermal spotting skills will be a big bonus to anyone he times for.

Gail and I wish you all a happy Christmas and a happy and healthy New Year.

Peter Scott. President.

SAM 1788 SECRETARY'S REPORT.
From Peter (Condo) Smith.

G`day All,

Well it's been an interesting few of months. I'm sure most of us have heard about the weather so we will just breeze by that.

The Coota Cup was moved to West Wyalong due to water logging of the Coota field. The Golden West Old Timer was cancelled. Luckily it was a good decision as it pelted down Sunday causing major flooding, even in Parkes, which is a long way from the Lachlan River. We live in hope that 2023 will be better.

The Easter 2023 SAM 1788 Champs at the AB Field, West Wyalong, are well in hand, and, with a little luck, an entry form will be included with TAT #13.

We had a little drama regarding the proposed Sunday spit roast and presentation of perpetual trophies at the Farm Club House. Unfortunately, it is beyond our control. So, for 2023, the presentation of the perpetual trophies will be at a venue to be announced at a later date. The cost of the dinner is $30.

The 2023 Old Timer Competition Calendar is finalized and should be in TAT#13 or posted out early December.

There are two events before the SAM 1788 Champs at the Adrian Bryant Field, West Wyalong from 5th April to 10th April. 2023.

First is Orange on the first weekend on February 4th & 5th, 2023. Events are on the Competition Calendar. Remember the New MAAA Rules apply, see MAAA website.

We have been invited by the Hunter Valley Club to run Old Timer events at the Hunter Valley Champs on March 4th & 5th, 2023, The events are listed on the Competition Calendar. Given it is a new event we have shortened the Sunday program so hopefully we are finished by 3pm or so, giving people an early start for home. Hope to see you there.

Entering the 1788 SAM Champs will follow last years format where you deposit the entry fees into the 1788 club bank account (BSB: 032527, A/C Number: 144170) and send the deposit slip or copy to me with your entry. Use your MAAA No as reference.

Entries close 24th March 2023. As per last year I will ring each entrant once I have confirmed payment and entered them.

Wishing everyone a Merry Christmas and Happy new Year.

CONDO.
19/11/22.

SAM1788 Competition Calendar for 2023

February 4th-5th — **Alan Brown Memorial Shield - Orange Oldtimer Weekend.**
Events:
Saturday: Burford, Nostalgia, Duration.
Sunday: 30min Cabin Scramble, 1/2A Texaco, Texaco.
Contact Person: Peter (Condo) Smith 0423 452 879

March 4th-5th — **Hunter Valley Championships - Muswellbrook.**
Events:
Saturday: Burford, Duration.
Sunday: 30min Cabin Scramble, Texaco.
Contact Person: Peter Scott 02 02 9624 1262

April 5th-10th — **SAM 1788 41st Championships - AB Field, West Wyalong.**
Events:
All MAAA Old Timer Events, plus Cabin Scramble, Control Line and SAM 1788 Electric Old Timer Glider.
See Official Program and Entry Form for full details.
Contact Person: Peter (Condo) Smith 0423 452 879

June 17th-18th — **New England Gas Champs - Tamworth**
Events:
Saturday: Burford, '38 Antique.
Sunday: 30min Cabin Scramble, 1/2A Texaco, Texaco.
Contact Person: Peter (Condo) Smith 0423 452 879

July 21st-23rd — **West Wyalong Old Timer Event - AB Field, West Wyalong.**
Events:
Friday: SAM 1788 Electric Old Timer Glider.
Saturday: Burford, Nostalgia, Duration.
Sunday: 30min Cabin Scramble, 1/2A Texaco, Texaco.
Contact Person: Peter (Condo) Smith 0423 452 879

September 1st-3rd — **Coota Cup - State Flying Field, Cootamundra.**
Events:
Friday: SAM 1788 Electric Old Timer Glider.
Saturday: Burford, '38 Antique, Duration.
Sunday: 30min Cabin Scramble, 1/2A Texaco, Texaco.
Contact Person: Peter (Condo) Smith 0423 452 879

October 13th-15th — **West Wyalong Alternative Dates**
To be use as alternative if other events washed out.

November 11th-12th — **Golden West Old Timer weekend - Parkes.**
Events:
Saturday: Nostalgia, Burford, Duration.
Sunday: 30min Cabin Scramble, 1/2A Texaco, Texaco.
Contact Person: Peter (Condo) Smith 0423 452 879

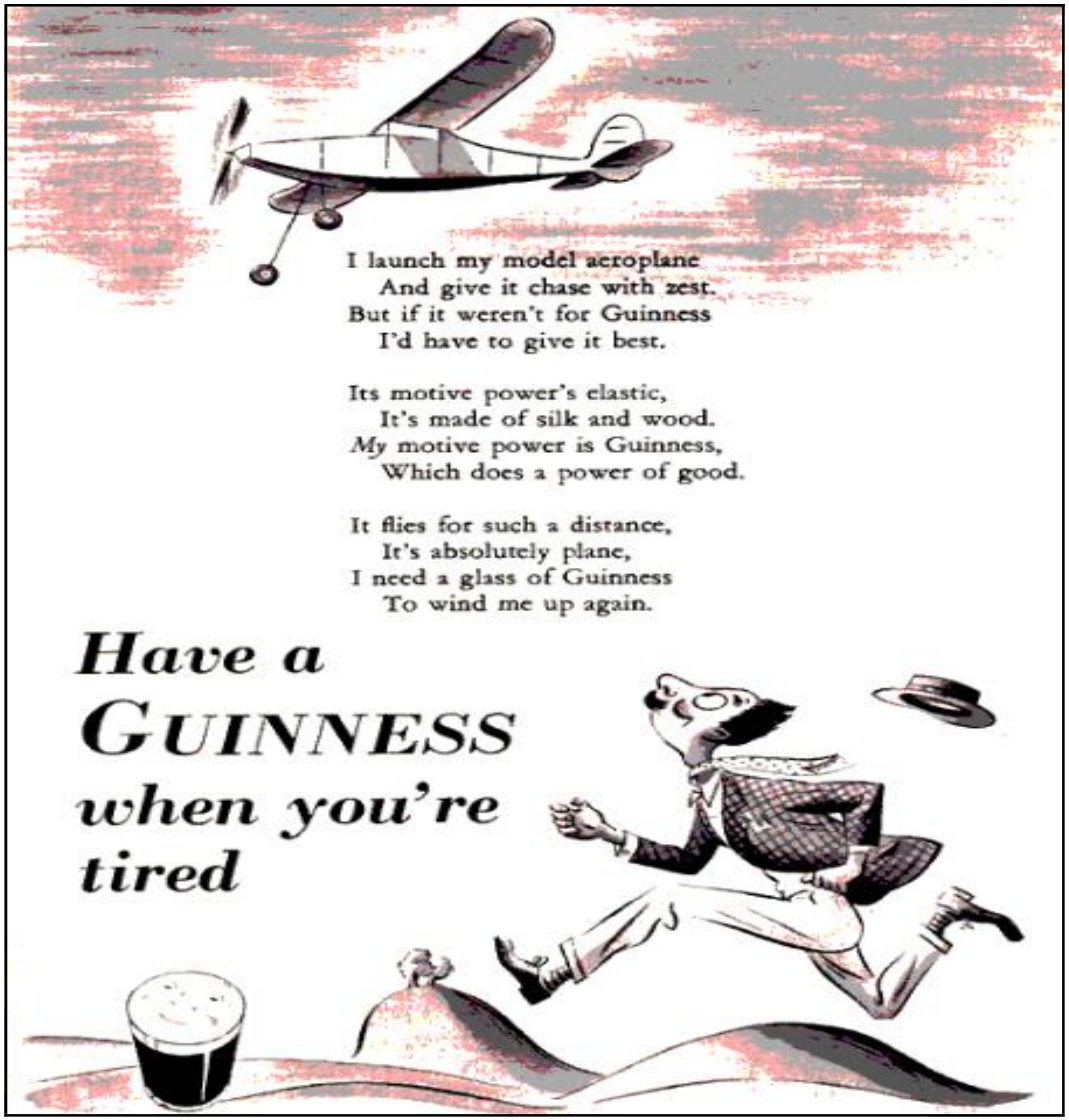
FOR SALE:

One 100% Bomber, flies well. Without receiver, but with Saito 56 4 stroke - $275.

One Powerhouse antique model, well used.
Flies well, has coil ignition. Flies with Spitfire at present.
Less engine and receiver, but with Cunningham 60spk - $325. (less engine $120).

One Dream Weaver, K&B 40 Nostalgia model - $130.

Contact: Peter Scott: (02) 9624 1262.



THE RAMBLINGS OF AN ANCIENT MODELLER

Encounters with Wildlife

Spring is Sprung, The Grass is Ris'
I Wonder Where the Biridies Is

From Basil Healy

Building nests, raising the next generation of their species AND VIGOROUSLY DEFENDING THE SURROUNDING AREA.

At our big flying field there were a pair of magpies nesting in a tree close to the landing approach path when there is a westerly breeze blowing. So far they have only damaged one model but completely ignore the flyers probably because we are about 50 metres away from their nesting tree. One of our members was the victim of their attack, his small, light model suffering a broken wing. At the Eastern State Gas Champs some years ago our editor's model was attacked by a magpie and crashed just outside the landing area. To add further insult to injury, the flight would have been a max had it crashed in the landing area.

At our small model field I was flying a two metre electric glider and had just settled into a thermal over a corner of the field when a sea eagle (Osprey) approached rapidly with obvious evil intent so I had to do something QUICKLY !! Knowing that diving away would only encourage the bird to attack, I did a quick 180 degree turn and headed straight toward it. We passed a few metres apart whereupon the eagle did a slow turn and lined up behind the model again, this time with wings swept back slightly. I repeated the turn and the eagle repeated the slow turn. This exercise was repeated several times with the eagle approaching faster each time. I then tried a different tactic by starting the motor and pulling full up elevator to execute a sloppy Immelmann Turn. This put the glider higher than the eagle who started flapping furiously to gain height. I repeated this twice more then the eagle lost interest and headed back in the direction from which it came. I then tried to find the thermal again, but it had petered out. Was this the reason why the eagle left my glider alone? We will never know!!

On the next occasion that we flew at our big field conditions were absolutely perfect for flying, but the resident magpies were particularly aggressive, attacking every model as soon as it became airborne. I was flying an electric glider that had undergone a major modification and was somewhat out of trim. Avoiding attacks by a magpie while pushing trim levers around makes for some interesting moments not helped any by the ribald advise being dished out by my fellow club members. Fortunately, no models were damaged on that occasion. One member thought he would be smart and moved a further 100 yards away from the magpie nesting tree before launching his model only to have a magpie appear from a different tree on the opposite side of the field!

Back at our small field a couple of weeks later a club member was test flying a fairly large electric thermal glider. It is a very lightly constructed, about 10 feet wingspan, and only weighs 2.25 pounds. He had gotten it trimmed out and circling in light lift when the resident sea eagle appeared. The pilot dived the model only to be followed by the eagle, so he increased the dive angle only to have the glider develop wing flutter. Quick thinking on the pilot's behalf by flattening out the dive stopped the flutter and it was obvious that the eagle had been frightened off by the noise of the flutter. Fortunately the model survived with only a cracked wing rib at the dihedral break.

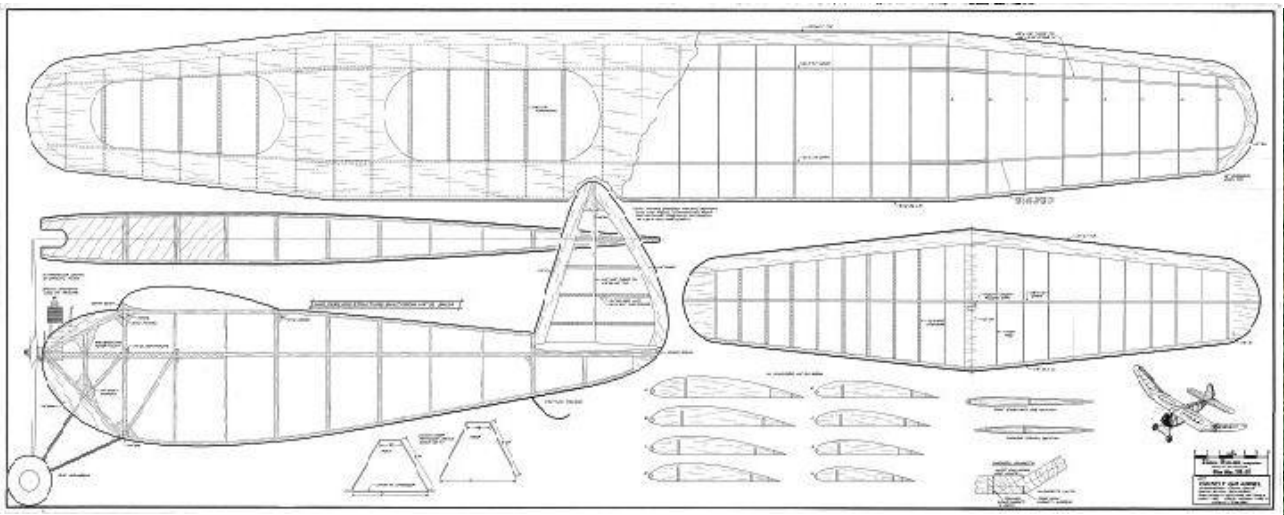
<u>Lessons Learned</u>

1. If an eagle enters your flying space you are probably in their territory and may be attacked. I have seen this happen twice when glider pilots took no evasive action. Diving away from an eagle is not a good idea. They simply sweep their wings back and can dive faster than most gliders and old timers can.

2.. Unlike magpies, which can turn quickly in flight, eagles appear to make large sweeping turns. Maybe their weight and its attendant inertia is the reason.

3. Looping or climbing quickly seems to frustrate attacking birds and they usually give up the chase.

Basil Healy.



Walt Parker's Ehling model; one of three at the SCIF Texaco meet. His flew OOS, was found days later, 8 miles away.

What could be a better combination? Ultra simple to build, and ultra stable to fly. Note DT. Fin goes into slot when popped up.

STILL WINNING..... FRANK EHLING'S 1937 GAS MODEL

OLD TIMER MODEL OF THE MONTH

● Billed simply as "Contest Gas Model," this Frank Ehling design was published in the September, 1937 issue of Air Trails. The magazine cost 15 cents and the cover still carried "Bill Barnes Air Novel" as part of the logo.

It was a funny coincidence that we had already planned to feature the model this month when we attended the SCIF Texaco contest at Taft, California, and found no less than three of them entered . . . by Jim Adams, Cliff Silva, and Walt Parker. All three performed well, with Jim Adams' model recording a 41:54 flight, to take first place.

As with most O.T. models, construction is so simple and basic that no written building instructions are required for even a modeler of average skill. We'd like to make one suggestion, however: Since the wing is sheeted from the spars to the edges, it might be best to make full depth spars, notching ribs and spars half way through, in egg-crate fashion. This provides a glueing surface for the inner edges of the top sheeting. Frank, who is now AMA's Technical Director in Washington, also suggests balancing at the 50 percent chord position.

By the way, let us know what types of O.T. models you would like to see presented in future issues. ●

The Geezer

Official Journal of the WA Model Aero Club (inc) and SAM 270 Western Australia

270 WESTERN AUSTRALIA

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SAM 270 WESTERN AUSTRALIA REPORT.

From Hans van Leeuwen.

There is not a lot to report here in W.A. as I believe that Rod McDonald has kept TAT up to date with the contests we've had.

I hope that I'm not too late with my article for TAT.

I haven't had time to do much about articles but had started an article about an induction system I made for a GB 5 that I managed to secure. It's a bit rough around the edges and I'd forgotten to take some quite vital pics and haven't had time to redo a dummy run to photograph the missing procedures.

May I take this opportunity to wish all SAM 270 members, our friends from all the other SAM Chapters, our readers and, of course, all the families, the compliments of the season and a better year for Old Timer activities and aeromodelling in 2023.

Regards, Hans van Leeuwen.

From the Vault…

Dicko presents the pre-comp briefing amongst generous contributions from the cows at the first SAM 270 Old Timer Competition for the 2015 Season at Oakford, being Std. Duration followed by the Burford Event.

WAMAC CONTEST CALENDAR 2023

	FF Events	OT Events		
26 Feb				
5 Mar	Labour Day Long Weekend			
12 Mar				
19 Mar		Standard Duration	State/Club	Beverley
26 Mar	Combined Open FF		Club	Beverley
02 Apr		1/2A Electric/2CC	Club	Beverley
09 Apr	Easter			
16 Apr	1/2A Power/E36		Club	Beverley
23 Apr		Texaco	State/Club	Beverley
30 Apr				
07 May	P30/Coupe		State/Club	Beverley
14 May	Mother's Day			
21 May		OT Duration	State/Club	Beverley
28 May	Slop/Nostalgia		State/Club	Beverley
4 Jun	Western Australia Day Long Weekend			
11 Jun		'38 Antique	State/Club	Beverley
18 Jun				
25 Jun	Open Power		State/Club	Beverley
02 Jul		Nostalgia	State/Club	Beverley
09 Jul				
16 Jul	Open Rubber		State	Beverley
23 Jul		1/2A Texaco	State/Club	Beverley
30 Jul				
06 Aug	F1Q/Open Electric		Club	Beverley
13 Aug		Burford	State/Club	Beverley
20 Aug				
27 Aug	Combined FAI		Club	Beverley
03 Sep	Father's Day			
10 Sep		Tomboy IC/Electric	Club	Beverley
17 Sep				
24 Sep	King's Birthday Long Weekend			
01 Oct		Old Timer Glider	Club	Beverley
08 Oct				
15 Oct				
22 Oct				
29 Oct				
05 Nov				

Old Timer Glider and 2CC Competitions.

SAM 270, Beverley W.A. 9th October, 2022.

Report from Rod McDonald and Photos from Hans van Leeuwen

Hi,
We had hoped to fly both OT glider and 2cc last Sunday however since there were only two entrants for glider only 2cc was flown

Conditions initially were ideal with light winds and mild temperatures. Wind did pick up during the morning and made the later flights in 2cc a bit of a challenge. Hans Van Leeuwen was the winner with his brand new Zoot Suit following a solo fly off. I maxed out in the rounds but cracked a spar in a hard landing on my final flight and couldn't continue.

Results						Total	Fly-Off
Hans Van Leeuwin	Zoot Suit	Enya 09	300	300	300	900	193
Rod McDonald	Stomper	Enya 09	300	300	300	900	
Greg McLure	Ollie	Thunder Tiger 10	271	300	300	871	
Phil Letchford	Playboy	Enya 09	193	-	-	193	

2CC Winner Hans van Leeuwen with his brand-new Zoot Suit powered by an Enya 09.

From the Vault...

Chris Edwards shows us the effects of doping on the wing of his Gas Flea.
Oh well, back to the drawing board !

A nice gaggle of Phantom's – Ian Dixon's Mk1's and Troy Latto's Mk2. Gary Dickens mk2 (now part of the Latto Hangar) at the extreme right.

George Car – The "Sheikh of Pancakes"

Are you a Futzer?

Futzing can be pure play, learning by trying, or an attempt to achieve breakthrough insights. Futzing may also be an amateur attempt to fix something that is not quite broken yet. Also defined as "the last thing you do with something just before it stops working anymore".

GB 5 Induction System

From Hans van Leeuwen - SAM 270 W.A.

Sometime ago I acquired a GB 5 minus the original fuel tank and intake tube. It had the stubby intake tube that was supplied with the engine. I wanted to see if I could complete the engine if possible.

I tried various ways to see if I could get some original spares to complete the engine. As most would know, David Owen is sadly no longer with us, and I asked some who were involved with the divestment of his model engine collection and associated things if there were any GB 5 bits available. I had no success but was fortunate to be able to borrow a new in box GB 5 from my friend Ian Dixon.

I set about to make the necessary bits to complete the engine. The fuel tank was the first challenge as I presume that these were originally cast or die formed. The only thing I could do was to take measurements and contours and to machine one from polycarbonate. This is not as simple as may first be thought. The tank had a slight taper which I presume to remove it from a mould. It is also semi-circular at the bottom and that is not easily machined by a novice. However, necessity is the mother of invention and fortunately the inside dimension is 1" and I used a 1" semi-circular router cutter to make that shape internally. Unfortunately it is almost impossible to blend the straight taper to the half circle as well as can be done by casting and no amount of polishing could remove that visual joint.

The machining of the 1" hemisphere with a router cutter.

The external shape of the tank was established by measurement and the use of a contour gauge to determine the blend of the taper and the hemispherical bottom of the tank and the spigot to take the retaining screw. The hemisphere at the bottom was made using the parting tool and curve table developed by Guy Lautard. I've used this system for years to make spinners and all manner of ball handles and curves.

Showing the fixture for machining the outside hemisphere of the tank.

My finished tank compared with the Owen original, note the join line that I could not remove.

Once the tank was made, I set about making the intake tube, the tank top/tank mounting plate, the lock nut for the intake tube, the spray bar and its associated nuts and the needle valve. Some of this required the purchase of taps and dies as they are not standard threads. The intake tube to crankcase thread is 3/8 x 32 tpi and the needle valve thread is 4mm x 0.5mm. This stuff probably cost more than the original engine but to me it was a great exercise and very successful. I was also determined to reproduce this as accurately as I could, hence the need to make my own nuts.

The needle valve was made by making a fixture for my automotive valve grinder to accurately grind the taper as shown.

I had to make a special fixture to hold the tank top to mill the spherical groove for the location of the intake tube to the tank top and I forgot to take any pictures of that process. I wanted to keep the stubby intake tube, spray bar and needle valve together and thus had to make a new spray bar and needle valve. The Gits oiler that is used by the original became too expensive, they would not sell me one, not even ten, I had to buy 100. The cost of that including freight from Canada was absolutely ridiculous. I finished up buying one locally that does not have the Gits stamp on it but it is in all other respects the same. One interesting thing about that oiler cap was the packaging when it arrived.

Package with oiler cap.

Side view of my engine complete with new carburettor.

Opposite side view of my engine complete with new carburettor.

I've run the engine with the new home made carburettor and fuel tank and it starts and runs perfectly.

The tank holds 10 cc, I did not check the volume of the original as it wasn't mine to contaminate.

Performance: APC 13x6 - 6,400 rpm, Zinger 14x6 wood - 5,300 rpm. 2.5 minutes.

This is comparable with figures from published tests for the engine.

Hans van Leeuwen
4 December, 2022

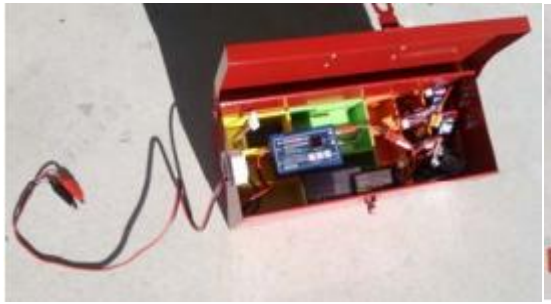
To All, Season's Greetings from

SAM 270 WESTERN AUSTRALIA

Lipo's vs Sheds ! (From SAM 270 Geezer Newsletter #35 August, 2014)

By Graeme Cooke.

I read a recent article in "Airborne" regarding charging of LiPo's and sheds burning down. The author suggested a simple solution to minimise the risk of fire breaking out was to purchase a simple tin box - I know of at least 2 people whom have had similar experiences, so the article made me take a few moments to analyse the risk versus safety measures.



Photos show the result of a trip to my local Bunnings (A major hardware store chain in AUS for our international readers - ed) to purchase a $10 toolbox and a set of plastic containers to create a battery storage / transport enclosure and piece of mind.

I used a hole saw to drill through the side of box and installed a plastic bush to allow charging leads to exit box. All up around $20 to reduce the risk of a fire spreading, thereby protecting the house and numerous possessions.

Graeme Cooke.

Just in case you thought Cookie was exaggerating a bit about LiPO safety, here is a photo of the results of a LiPO fire …….

Results of a LiPO fire..

On June 29 in Wanneroo, a family lost their house and everything in it when a LiPO battery broke down and caught fire while it was on charge in their garage. The family had been flying their models at a local park, came home, put the LiPO on charge and gone out for tea. They came back to ashes. Do yourself a favour and use Cookie's tin box, a brick bunker or LiPO safe bag if you are charging your cells indoors. Alternatively, buy a LiPO safe bag from your local Hobby Store for $15.00 and use that.

It's cheap insurance folks!

Ignition Engine Fuel for the 21st Century

Texaco Events: There are two basic old-timer events. For the true old-timer events known as Texaco, a mixture of gas and oil is the common fuel used. This is the same fuel as used in the first original ignition engines. A Texaco event allows a certain amount of fuel based on the overall weight of the model. The flight is launched and the engine runs until the fuel tank is empty. The longest flight wins the event. A gas-oil mix burns slower, therefore the engine consumes less fuel, offering a longer engine run time, just what is required for a Texaco event.

Most original ignition engines, in the old days, used a blended mixture of 3 parts pure white gas to 1 part of 70-weight motor oil (3 to 1 mix). White gas is no longer available, and due to the various chemical compositions in mod-ern gasoline blended for different climates, it may be necessary to experiment with different brands of local gas to find the best and longest running fuel. Use the lowest octane rated regular blend of automobile gasoline.

The 70-weight motor oil is no longer readily available in local markets. You may be able to order a case of 70 weight Pennzoil aircraft grade oil through a local oil distributor. The stock # is 2579. Local airports may also be a source, however, 60-weight oil is available through local Harley-Davidson motorcycle shops and is now commonly and successfully used in the old engines. Do not use any of the modern synthetic oils exclusively as they don't offer the proper lubrication for the old model engine metallurgy and bearings used. For the oil mix it is recommended to use either the 60W HD oil - or Klotz BeNOL 2-Stroke Racing Castor oil usually available at Japanese motorcycle shops.

In the old days many modellers used a 3 to 1 fuel mix of white gas and castor oil. Be aware that castor oil doesn't blend well with gasoline unless it has been polymerized, a sort of cooking process, which also de-gums and lowers the viscosity. SIG's Baker brand castor oil has not been polymerized. The label on the castor oil container will tell you if it mixes with both methanol and gasoline. Maxima brand Castor 927, and currently Klotz brand BeNOL 2-Stroke Racing Castor, both blend with either gas or alky. Many of the Japanese motor cycle shops carry Klotz products. The Klotz products can also be ordered from Towers Hobbies, catalogued under Fuel & Fuel Accessories – After Run Oils.

Many modern contest flyers use Coleman lantern Fuel, readily available in one-gallon cans at sports stores or Walmart's camping supply department, and use the 60W Harley Davidson oil or polymerized castor oil, in a 3 to 1 mix.

The gasoline or Coleman fuel mixtures will not affect the old original engines plastic gas tank.

The above fuel blends are primarily used for Texaco events. These mixtures burn longer to a tank-full (better gas mileage) than the following methanol based LER fuel blends.

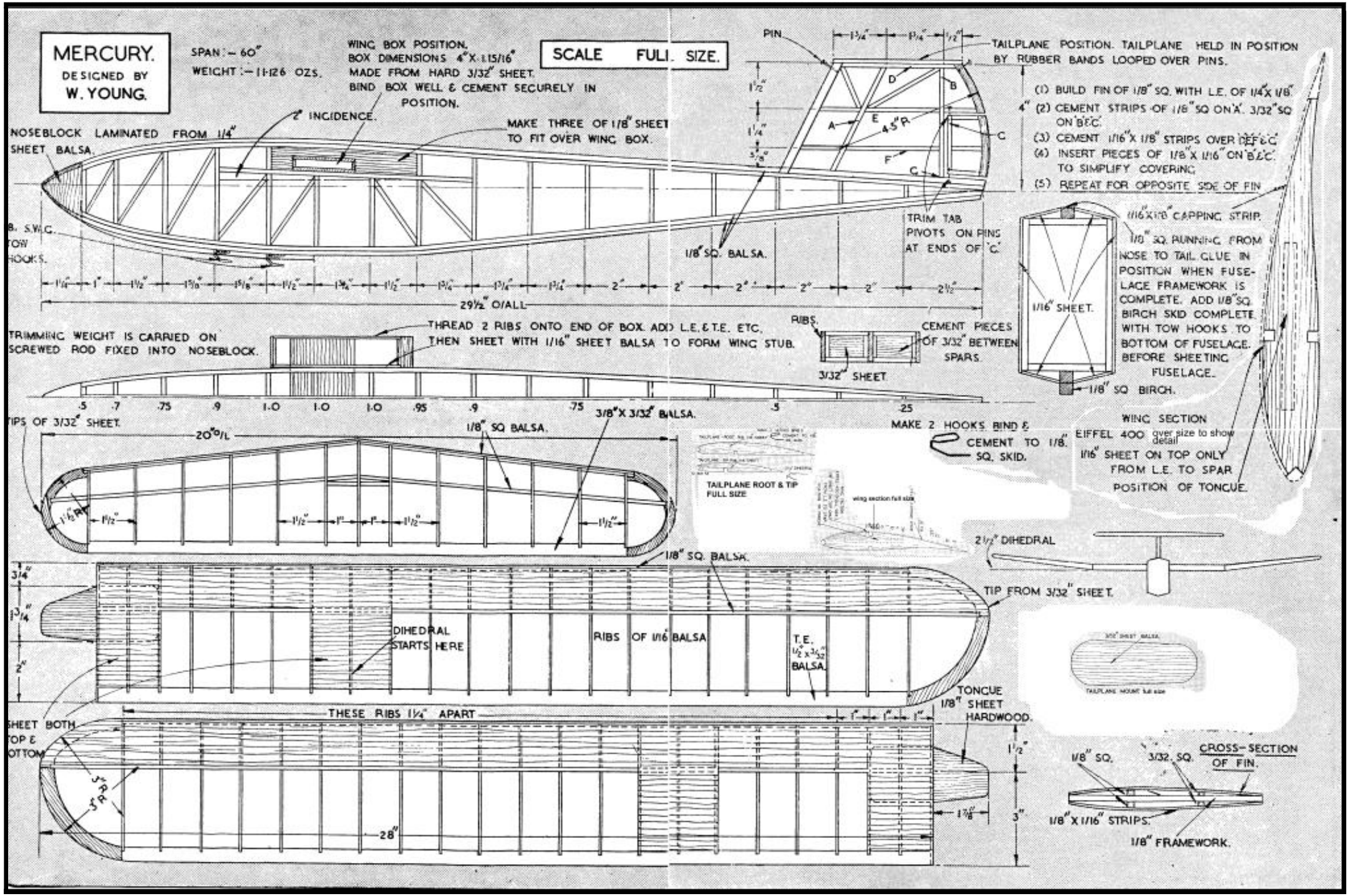
LER (Limited Engine Run) Events: LER events only require relatively short bursts of power. For this event modern day competitors commonly use a fuel blend of straight Methanol and a lubricant in a 3 to 1 mixture. The Methanol adds a little more power by adding more oxygen to the combustion fuel mix and it runs cooler. This mixture burns faster than the original gas-oil mix and uses more fuel per comparable flight time than a gas-oil mix.

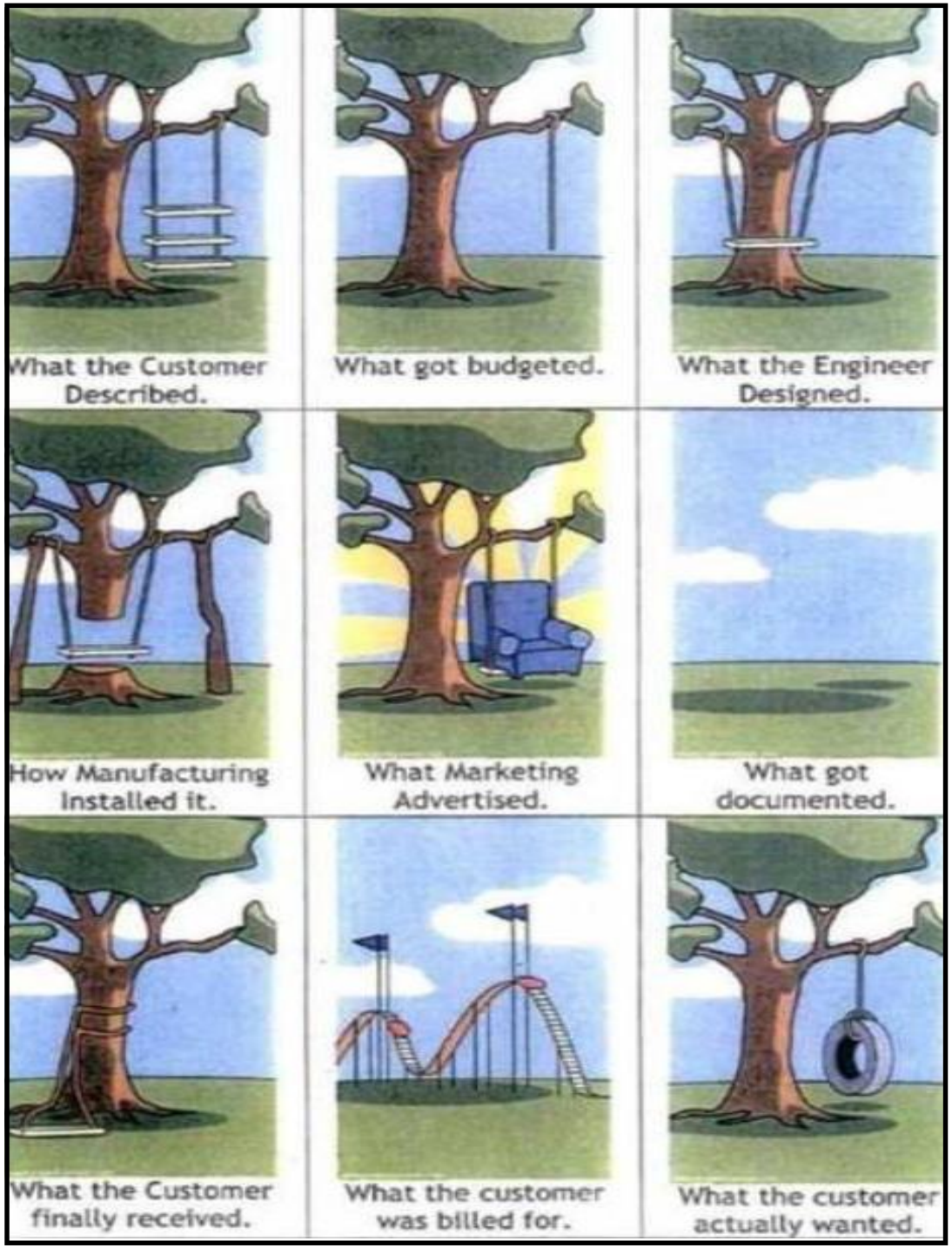
Oil for Spark Ignition engines.

Many SAM Champs contestants use FAI glow fuel (FAI fuel has no nitro added) in the LER (Limited engine run) events. Red Max brand is one suggested brand as they will custom mix it for your ignition engine with a castor/synthetic oil blend. Be sure to specify that your FAI fuel contains at least 20% to 30% castor oil in the lubricant mixture. Some fliers mix their own fuel using a 3 to 1 mix of Methanol and Klotz KL-100 Super Techniplate Oil, which is a blend of 20% castor and the rest synthetic. Methanol is usually available in a small quantity from a local race car driver or from a local racetrack pit crew. Be aware that the Methanol based fuels will melt the old/original plastic fuel tanks. A replacement metal fuel tank or modern glow fuel tank must be used.

Tip: If ignition engines are new to you, or you're just getting your old fires rekindled here's a suggestion. On a newly acquired ignition engine, mount it on a test block and install a glow plug. Forget the ignition system for now.

Obtain some of the aforementioned FAI fuel (don't use fuel with nitro added), and the proper fuel tank, and get the engine set up and running properly. Once you're comfortable with the starting and needle valve settings, now it's time to hook up the ignition system, add the Gas or Coleman fuel 3-1 mix, and run her just like in the good old days.


MERCURY.
DESIGNED BY
W. YOUNG.
SPAN :- 60"
WEIGHT :- 11-12 OZS.
WING BOX POSITION.
BOX DIMENSIONS 4"X 1.15/16"
MADE FROM HARD 3/32" SHEET.
BIND BOX WELL & CEMENT SECURELY IN POSITION.
SCALE FULL SIZE.
2° INCIDENCE.
NOSEBLOCK LAMINATED FROM 1/4" SHEET BALSA.
MAKE THREE OF 1/8" SHEET TO FIT OVER WING BOX.
1/8" SQ. BALSA.
TRIM TAB PIVOTS ON PINS AT ENDS OF 'C'
29½" O/ALL
TRIMMING WEIGHT IS CARRIED ON SCREWED ROD FIXED INTO NOSEBLOCK.
THREAD 2 RIBS ONTO END OF BOX. ADD L.E. & T.E. ETC. THEN SHEET WITH 1/16" SHEET BALSA TO FORM WING STUB.
RIBS.
CEMENT PIECES OF 3/32" BETWEEN SPARS.
3/32" SHEET
TIPS OF 3/32" SHEET.
20°/L
1/8" SQ BALSA.
3/8"X 3/32" BALSA.
1/8" SQ. BALSA.
3/4"
1 3/4"
2"
DIHEDRAL STARTS HERE
RIBS OF 1/16 BALSA
T.E. ½"x 3/32" BALSA.
TIP FROM 3/32" SHEET.
SHEET BOTH TOP & BOTTOM
THESE RIBS 1¼" APART
28"
TONGUE 1/8" SHEET HARDWOOD.
1½"
3"
PIN
TAILPLANE POSITION. TAILPLANE HELD IN POSITION BY RUBBER BANDS LOOPED OVER PINS.
4"
(1) BUILD FIN OF 1/8" SQ. WITH L.E. OF 1/4"X 1/8".
(2) CEMENT STRIPS OF 1/8" SQ ON 'A'. 3/32" SQ ON 'B' & 'C'.
(3) CEMENT 1/16"X 1/8" STRIPS OVER 'D' 'E' & 'C'
(4) INSERT PIECES OF 1/8"X 1/16" ON 'B' & 'C' TO SIMPLIFY COVERING.
(5) REPEAT FOR OPPOSITE SIDE OF FIN
1/16"X1/8" CAPPING STRIP.
1/8" SQ. RUNNING FROM NOSE TO TAIL. GLUE IN POSITION WHEN FUSELAGE FRAMEWORK IS COMPLETE. ADD 1/8" SQ. BIRCH SKID COMPLETE WITH TOW HOOKS TO BOTTOM OF FUSELAGE. BEFORE SHEETING FUSELAGE.
1/16" SHEET.
1/8" SQ BIRCH.
MAKE 2 HOOKS BIND & CEMENT TO 1/8" SQ. SKID.
WING SECTION EIFFEL 400 over size to show detail
1/16" SHEET ON TOP ONLY FROM L.E. TO SPAR POSITION OF TONGUE.
TAILPLANE ROOT & TIP FULL SIZE
2½" DIHEDRAL
CROSS-SECTION OF FIN.
1/8" SQ.
3/32. SQ.
1/8" X 1/16" STRIPS.
1/8" FRAMEWORK.



Non-Entry in the 1953 King's Cup
Flown by Wing Commander S. Claus
Spitfire Vb AB893 served in the
Lapland Air Defence and Gift Distibution role
following the retirement of the Reindeer Mk.I.

TRIVIA

In the 1960s, the Wham-O Corporation accidentally destroyed a car with a giant ?

Hacker Sack	Frisbee
Ball of Silly Putty	Bouncy Ball

ANSWER:
BOUNCY BALL

You could easily argue that the toy company Wham-O put bouncy balls on the map with their introduction of the Super Ball bouncy ball in 1965. The balls are made of an incredibly bouncy synthetic rubber (Zectron) invented by chemist Norman Stingley and are capable of almost returning to their previous position when statically dropped and will easily bounce over a house if thrown forcefully at the ground by an adult.

While the typical Super Balls were just shy of 2" in diameter, in the late 1960s Wham-O cooked up a promotional stunt idea (and a giant Super Ball to go with it). To demonstrate how high the ball could bounce, they scaled up the typical 2" ball to around the size of a bowling ball (roughly 8-9"). They dropped the super-sized Super Ball out of a twenty-third floor hotel window in Australia. It bounced back up an impressive fifteen stories and then promptly, now moving at an angle, plummeted down and crushed a parked convertible car.

If reading about Super Balls has hit you with a bit of nostalgia (and perhaps a recollection of breaking a window or two with the energetic toy in your youth), you'll be happy to hear they're still in production. While sales will likely never reach the hundreds-of-thousands-per-month briskness the Super Ball experienced in the 1960s, you can still buy the balls, original formula and all, at toy stores across the world.

So let me get this straight.

I go to the grocery store and buy:
a pound of sliced ham wrapped in plastic;
a loaf of bread in a plastic bag;
a gallon of milk in a plastic jug;
a pack of napkins wrapped in plastic;
a ready-made salad in a plastic container;
a plastic bottle of mustard;
and a plastic bottle of ketchup;

but they won't give me a plastic bag
to carry it home, because the plastic bag
is bad for the environment?

A size comparison between the Titanic and a modern cruise ship.

OLD ENGINE ANALYSIS

Number 1 - Anderson Spitfire

By Charlie Bruce

The sturdy Spitfire, which can be described as a Super Cyclone on steroids, has been a solid, dependable runner since its introduction in 1947. Designed and produced by Mel Anderson first as a 60 (bore 15/16" x stroke 7/8"), then as a 65 by increasing the stroke to 15/16", it was one of the last spark ignition engines to be introduced at the beginning of the glow era. A mechanical success but an economic failure, the engine dropped off the market in 1949.

About 9 years later it was resurrected by McCord Precision Products and sold as both ignition and glow models with a machined aluminum, blue anodized head and different cam/prop drive arrangement. REMCO produced additional Spitfires around 1970 with the die cast head. There are at least three different heads found on these engines: a standard compression die cast with rounded combustion chamber lobes, a high compression die cast with large squared lobes and a machined barstock "Denver Head", high compression anodized blue. The engine will generally perform better with the high compression head, certainly better if alcohol fuel is used. At this writing (1992) the 65 is being made and sold by Marvin Miller using original dies and essentially duplicating the 1948 engine.

There are no serial numbers on the engines and no marks to distinguish the 60 from the 65. The 65's are supposed to have 4 "port holes" for sub-piston induction drilled thru the cylinder front and back. However, since all cylinders are interchangeable the only sure way to determine size is to measure the stroke. This can be done thru the spark plug hole without disassembling the engine. Use a depth mike or calliper with a depth stem and measure from the plug seat to the top of the piston at bottom dead centre and again at top dead centre. The difference between the two measurements is the stroke: 7/8" (0.875) indicates a 60 and 15/16' (0.938) is a 65.

The engine is basically a refined and beefed-up Super Cyclone. It: weighs a bit more, 13.8 oz. to 10 oz. for the Cyke. The added weight comes from thicker castings and a larger crankshaft mounted on a ball bearings to take radial and thrust loads. Mel Anderson did a fine job in correcting two problems with the Cyke, namely fragile castings and excessive crankshaft/bearing wear. The 1/2" dia. shaft of the Spitfire with its 11/32" dia. gas port provides 21% more breathing area than the 7/16" x 5/16" Cyke crankshaft.

The Spitfire came in both lapped and ringed piston models. I have no personal experience with the ringed engine, but Don Blackburn who does says that the ringed engine runs smoother and has more power than the lapped one.

DISASSEMBLY: To remove the timer you must first remove the prop drive washer. If the cam is on the crankshaft, the prop drive washer just slips off. If the cam is on the drive washer, it is a pretty tight press-fit onto the crankshaft and should be removed with a small gear puller.

Use snap ring pliers to remove the ring retaining the timer, loosen the timer clamp screw and slip timer off its seat on the bushing. Be careful not to lose the two plungers and tiny springs which fit into the holes in the front of the crankcase and engage the timer ratchet teeth.

The plastic fuel tank is held in place by a special nut and long spindle with 3-48 threads on both ends. There are gaskets at the tank/backplate surface and under the special nut. If the tank is shrivelled from alcohol fuel use or stuck, warm it with a hair dryer and it should come off by hand.

The back plate is threaded in place. To remove it you need to make a wrench. Take or make a hardwood dowel a bit smaller than 1 1/4" in diameter and 4 to 6 inches long, set it vertically in a vise and saw two slots in the end at 90 to each other forming a cross. The slots should be about 0.2" wide and 1/4" deep. These slots are to fit over the projections inside the rear cover. To use, place the wrench in the vise, warm the rear of the engine with the hair dryer, fit the backcover onto the wrench and unscrew by turning the engine counter-clockwise. You may need gloves to hold the engine and if it's an old dirty gummy one, you may have to get it hotter. A heat gun for shrinking plastic covering will get much hotter than a hair dryer. A propane torch can be used in badly stuck cases but be careful! You can melt aluminum with the torch and set all manner of things afire!

There is a paper ring gasket between the backplate and case. If not torn, it can be reused in most cases. The cylinder head is retained by eight screws. If the head is stuck, try warming it and gently prying around the edges. Remember die-cast aluminum is soft and brittle.

The head gasket will probably have to be replaced. Be sure and remove all of the old gasket and gunk by carefully scraping with a razor blade. If you want to remove the cylinder it is best to be sure the engine turns over freely first. If the piston is stuck, try soaking in carb cleaner for a few hours (remove tank first!). A little heat will usually allow the shaft to be turned with a prop. Don't use pliers.

Sometimes a little WD-40 in the exhaust and thru the plug hole will ease the process. Do not use open flame around WD-40 or other solvents. The cylinder is retained by four screws. There is a paper gasket between the cylinder flanges and case. It can be re-used if in good shape.

With the cylinder lifted off and backplate removed, the piston/rod/wrist pin assembly can be slipped out. Be very careful not to lose the two little wrist pin pads. These are aluminum or brass inserts which slip into each end of the wrist pin to prevent the hard steel pin from scoring the cylinder. When you re-assemble the engine be sure these pads are in place.

Remove the snap ring from the front of the crankshaft. (Engines with pressed on cam/prop drive do not have a snap ring.) If the crankshaft turns freely it should push out the back by hand. You may have to squeeze it out in a large vise. Be sure and protect the rear of the case and

front of the shaft with pieces of hard wood to prevent damage.

If the ball bearing comes out with the shaft, it may be removed by wedging using two sharpened flat blade screwdrivers, one on either side of the bearing. Wedge between the bearing and the shaft. If the bearing is in the case, place a flat piece of soft wood (2x4 or 2x6) on the bench, heat the case, and tap it sharply on the wood, back side down. The BEARING is removed by inertia, You may have to heat the case to around 300 F to get the bearing out. Use gloves and don't melt it. If the bearing is rough, replace it with a new one. It's an MRC #R-8 or equiv. unshielded.

RE-ASSEMBLY: This is essentially a reverse of the disassembly process with a few special notes. Be sure to oil the moving parts before assembly and don't forget to oil the screws. I use Marvel Mystery Oil but any light non-gumming oil will do.

Slip the ball bearing onto the crankshaft and be sure it's seated. Do not pound on the outer race! It should seat by hand. If not slip a piece of metal tubing over the crankshaft so that it contacts only the inner race and press the bearing in place. Heat the crankcase and place the oiled shaft/bearing assembly in position. It should drop in, seat solidly and spin freely. You may have to tap the shaft gently with a piece of soft metal or a wood dowel to seat the bearing.

Let the case cool before proceeding. Be sure the crank spins freely. The cylinder can be installed with the exhaust facing right or left. Decide which way you want it and install the piston/rod assembly so that the piston baffle is furthest from the exhaust. If you put the piston in backwards, the engine will FIRE, it may run but it won't have any horsepower. Remember to see that the wrist pin pads are in place. A few minutes running without them can score the cylinder liner beyond repair.

To install the cylinder head use a new gasket or be very sure the old one is in excellent condition. A bit of vaseline or moly grease spread on the gasket surfaces will generally keep it from sticking so bad. Note how the combustion chamber lobes are cut to clear the piston baffle and be sure you install the head so that there is no interference.

Remember to install the timer ratchet springs and plungers in their holes in the crankcase before you install the timer.

Be sure cam is positioned to just open the points at the top of the piston stroke with timer arm horizontal. The cam will go on two ways so be sure it's right or the spark liming will be wrong and it won't run. Start the cam onto the crankshaft flats by hand to be sure they line up with the recesses in the cam. Seat the cam by installing a propeller.

The spark plug is 3/8" Champion V-1 or VR-1 or equivalent. Plug gap is 0.012 to 0.015'. Breaker point gap 0.006 to 0.010". Recommended fuel is 1 part 70 wt. oil to 3 parts unleaded gasoline (by volume). You can use a gasoline mixable castor oil if you prefer. The Spitfire runs great on 3/1 methanol and castor oil also, but don't use it in the plastic tank! Start with timing retarded, arm horizontal or one click above horizontal.

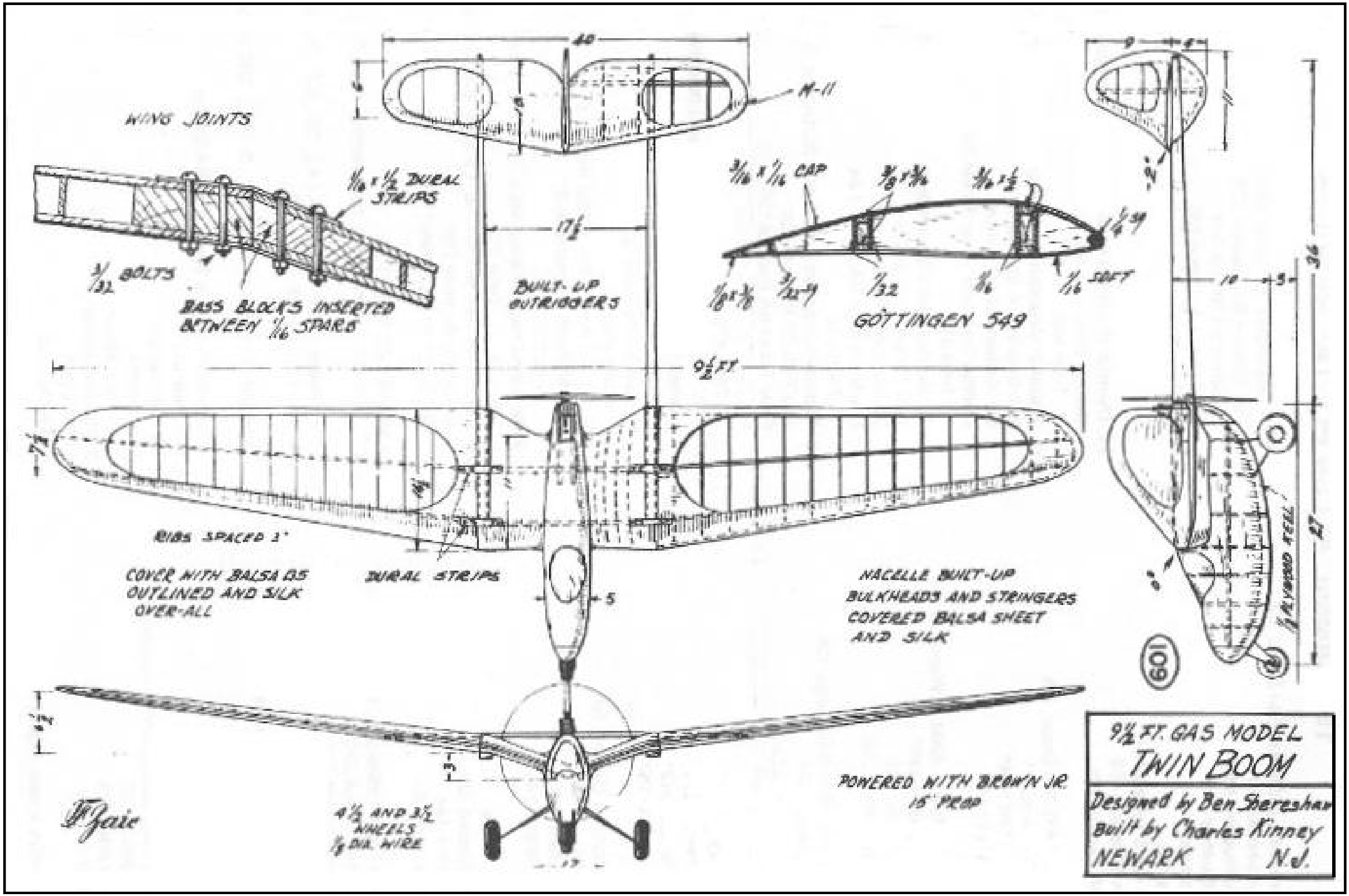
Parts. Engines and Repairs: Original Spitfires show up regularly at swap meets and MECA Collectos.

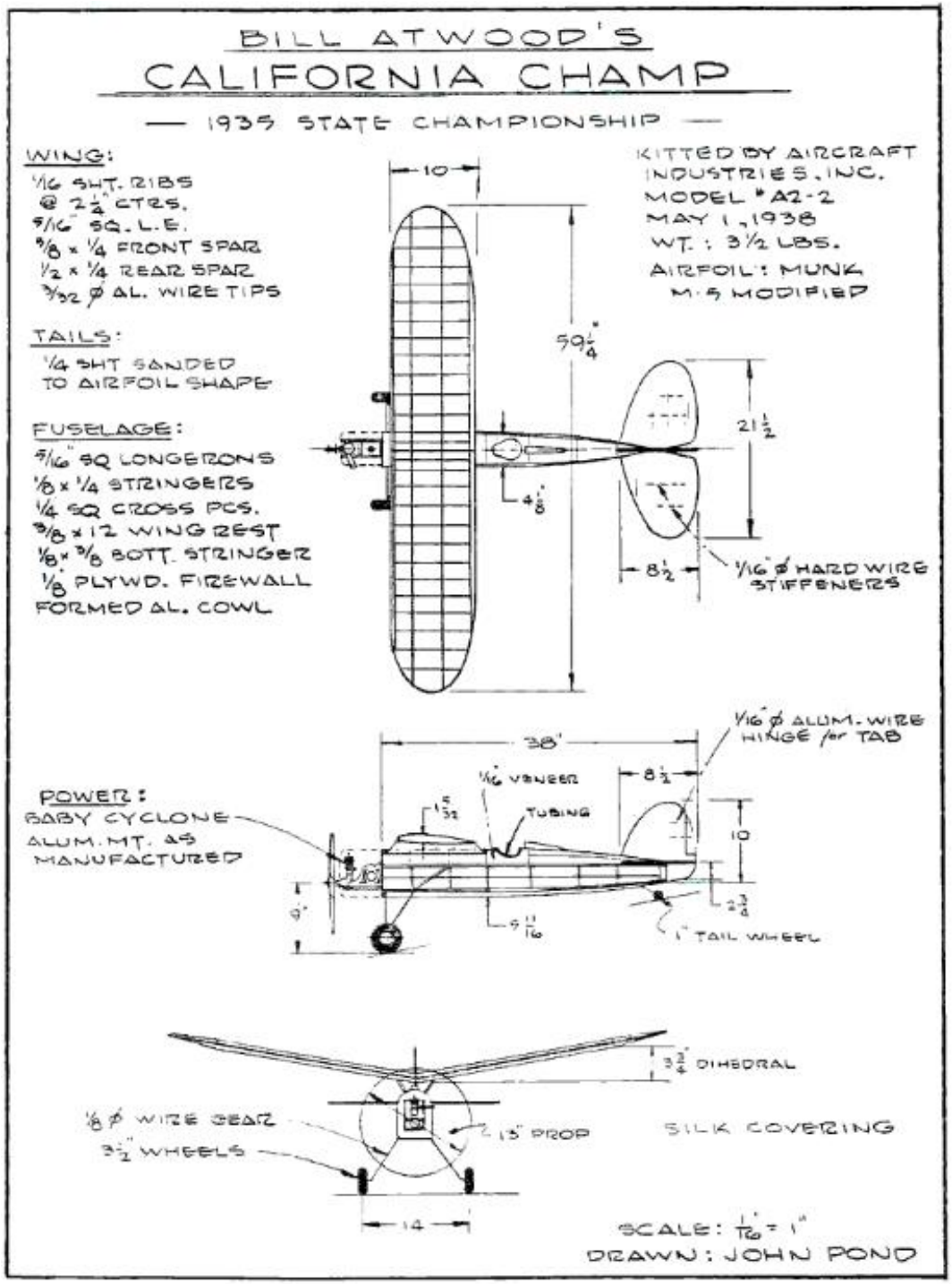
Original parts are a bit harder to find but Marvin Miller at M.B. Miller Co.,250 Bronco Rd., Soquel, CA 95073 has all parts, as well as new engines. They are beautiful. Send a SASE for his list.

Bob Hopper at PO Box 296, Logansport IN 46947 has repro tanks and unmachined timer castings.

George Aldrich at 12822 Tarrytown, San Antonio TX 78233 does restoration and repair as does Don Blackburn, PO Box Anderson, give me a call or card.

Charlie Bruce Rt.1 Box 766 Milano TX 76556 (512) 455-9543


WING JOINTS
1/16 x 1/2 DURAL STRIPS
1/32 BOLTS
BASS BLOCKS INSERTED BETWEEN 1/16 SPARS
BUILT-UP OUTRIGGERS
3/16 x 1/16 CAP
3/8 x 3/16
3/16 x 1/2
1/16 SOFT
1/32
GÖTTINGEN 549
M-11
9½ FT
RIBS SPACED 3"
COVER WITH BALSA OS OUTLINED AND SILK OVER-ALL
DURAL STRIPS
NACELLE BUILT-UP BULKHEADS AND STRINGERS COVERED BALSA SHEET AND SILK
4½ AND 3½ WHEELS 1/8 DIA. WIRE
POWERED WITH BROWN JR. 15" PROP
9½ FT. GAS MODEL
TWIN BOOM
Designed by Ben Shereshaw
Built by Charles Kinney
NEWARK N.J.



Film Covering Repair

Ever have difficulty repairing Old Faithful's covering after years of fuel soaking and aging? Try these ideas.

If you have to remove the old covering and the adhesive remains fastened firmly to the framework try this idea from Al Tamburro.

Use Stripease paint stripper just as you would remove paint. Takes it right off and leaves no residue on the wood after you wash it.

Need a patch on the same old fuel soaked finish? Well, you already know that the field finish cleansers won't cut it but next time try CA kicker. Just spray it on and after a few mo-

Bombers? Bombers?

Don't hinsult the Harmed Services wif yor rainbow colours m'lad. Hykin tell y'bout bombers. Squadrons uh the bleedin fings, all day and all bleedin night. None of yer nancy-boy yellas an purples an reds back then, m'lad, an no fancy multi-hued Flamingo tryin to hinsinuate hitself hinto formation, neeva.

Rarver, jus that patriotic and comforting (though sumwot ominous) Humbrol Dark Green #116 orn hunderbellies wot darkened the sky so's hykid only tell wever squad were in step by boots comin darn hard orn solid parade ground concrete.

RECOLLECTIONS ON MODELS & MINIATURES

By Robert H. "Bob" Munn, SAM 474L

Like many of my contemporaries, I was swept up in enthusiasm for all kinds of flying things during the "Golden Age" of aviation in the mid-1930s.

As a boy in the Midwest, my parents. had little sympathy for my fascination with tales, of Bill Barnes and G-8 and His Battle Aces, so there wasn't much support for my early years of building mostly solid models. Later, after weeks of futile attempts, I finally got a Comet "PHANTOM FLASH" to ROG off the gym floor and do a couple of staggering circles. I was hooked!

My first really successful rubber model was the Comet "SPARKY", and I progressed through a series of the smaller Scientific, Burd, Berkeley and Comet rubber kits and gliders, paying for many of these by selling Burpees Seed Packets to neighbouring gardener.

My best rubber effort was Jim Cahill's "CLODHOPPER", with which I won a few local contest's. One evening while test flying just before a big event, I launched a low-energy wind on the college campus across the street from my house. The "CLODHOPPER" circled slowly, drifting slightly in the sunset breeze, and edged into the street. It was demolished, in fact engraved into the asphalt, by a passing car. You can bet I cried my heart out that night.

My earliest prize of any note was a blue ribbon for Handicrafts at the Kansas State Fair in 1940, for my rendition of a Cleveland "CURTISS HAWK P6E". Lacking the resources for large kits or engines, I helped friends build and fly a number of free flight models such as the "SAILPLANE", "BUCCANEER", and "POWER HOUSE", while in High School prior to World War II.

Remaining in the military after the war, I built a number of rubber and free flight models. I had a brief fling at control line types, then ended when testing a Mc Coy 49 powered speed model at Glenview Naval Air Station a few days before the Nationals was set to take place there. The plane came off the lines while doing something over 100, smashing straight into a concrete hangar wall. Ah Well! Finis control Line!

My next serious turn at modelling came in 1954 and 55 while attending the University of Southern California on the GI Bill. A downtown hobby shop which provided Los Angeles firms with many types of models for display or window dressing staked me to a kit of the JOE LANE revenue cutter ship model It brought a good price and by contract building a variety of aircraft and ship models.

I was able to acquire my first radio control set, a Babcock single channel and my first RC aircraft, a Kenhi "BUZZARD". This six foot model with its heavy battery load and K&B 19 engine would stagger into the air, fly around about 15-20 feet high, and manage to find hiding in the dense greenery of the carrot patches surrounding Mile Square in those days. We would rise about 5, drive south until we found a place to have breakfast, then go to Mile Square and fly until about 10 when the wind became too strong for our models.

I became acquainted with many modellers who later became prominent in the industry or sport during these days. Much of the time was spent searching for stray aircraft, since the "control" element was often lacking in our radio models.

During this period I became very active in free flight competitions, and flew many times from Mirage Dry Lake and Taft with my dear friend Howard Johnson who some years later became President of AMA. We experimented with radio controlled free flight, but the size and weight of equipment in those days was too much of a burden for all but the largest models.

We had a very simple formula for RC free flight in those days: after all preparations for launch were completed, you handed the transmitter to the timer. The flight began with take-off and ended when you took the transmitter from the timer (or when a max was achieved). The "purity" of all those careful flight adjustments was thus fully preserved, and you always had the chance to get your toy back if it drifted too far or got into trouble. I guess that formula is too simple for today's competitors.

Returning to government service in 1956, i had lots of opportunity for RC flying while assigned in Tripoli, Libya. We flew mostly sport planes and some seaplanes, but I built a handful of free flights to take back to the US with me during a vacation in 1959. In Washington DC during 1962-63 I was again an active member of the DCRC and

Bob Munn proudly holds his beautiful silk covered "Super Buccaneer" powered by an OS 60 4cycle. Bob has authored a series of articles on the art of covering and finishing with silk which we plan to publish soon in SAM Speaks.

built quite a few aircraft, mostly sport-scale types. The club finally threatened to "dismember" me if I did not retire my Midwest "TRI-SQUIRE", powered by a BMW diesel and the last of the locally living super regenerative receivers. They always gave me a turn to fly during lunch break, since that diesel would run about 35 minutes on 4 ounces of fuel, and nobody else could fly while I was up! That RC set now resides in the AMA museum at Reston, rigged to show how the old rudder-only and escapement sets worked.

Very little modelling then until 1975, when I was assigned in South Africa. There was a large and very active modelling community in which I participated enthusiastically, again mainly scale and sport models.

Retiring from government service in 1977, I began serious mode modelling a year or so later after settling in Utah (with frequent visits in California). Long time friend John Pond asked me one day in about 1979 how long it had been since I last built a rubber model or a free flight? I shortly built my second "SPARKY", about 40 years after the first one, and began to become involved in SAM activities.

At the same time I have been building and flying a large variety of quarter scale and other sport aircraft and seaplanes, and am often caught in event schedule conflicts. The Old Timers have had the edge lately.

Through the years I have written some 20 or 30 articles for various magazines in the US and abroad, treating with a variety of subjects such as finishing materials and applications, fuels, Webra Dynamix carburettors, Fun-Fly events, Floatplanes, reports on major modelling events, and so forth.

During 1980 and 81 I worked with a good friend in Cape Town who has a thriving hobby business throughout Southern Africa. We had often thought of establishing some kind of kitting business there. I selected the machines, installed them, designed and built the dies needed, trained the production crew, and designed (or engineered in miniature) several large sport and scale aircraft, which are still being kitted there.

In the winter of 1983-84 while house-bound with snow and a mild illness, I finally put in order a collection of photos accumulated through the years. My memories were greatly refreshed at that time by the accidental acquisition of a large number of model magazines from the 1930s, some of which reported mid-western events in which I had taken part (without much success!).

I began a modelling chronology, listing things built and experiences shared throughout the years. As of this summer I recall building something over 330 models, more than half of which were done in the last 13 years. One of these days I will retire from modelling and have some time for all the other things we had planned to do during these "Golden Years"!I

Bob Munn's 84-inch-span Powerhouse is covered in yellow and blue silk, and uses an O.S. .61 four stroke engine.

O&R TUNING TIP #17

George Tallent's case seal replacement method

By Bob Angel, Newsletter Editor, SAM 26

The late George Tallent had machinery to do almost anything, and if he didn't have it, he'd make or buy it. He had developed the best process I've seen for replacing the O&R cylinder to case gaskets. His method came as close as any to the original O&R factory procedure. The good news was he would do this job for SAM fliers, and at a very reasonable price.

Before disassembly, George measured the depth to which the cylinder was seated in the case, so he could duplicate that at re-assembly. For this he used a depth gauge inserted through the spark plug hole, and measured down to the inside bottom of the case. He then milled out the old front and rear bosses, which released the cylinder from the case.

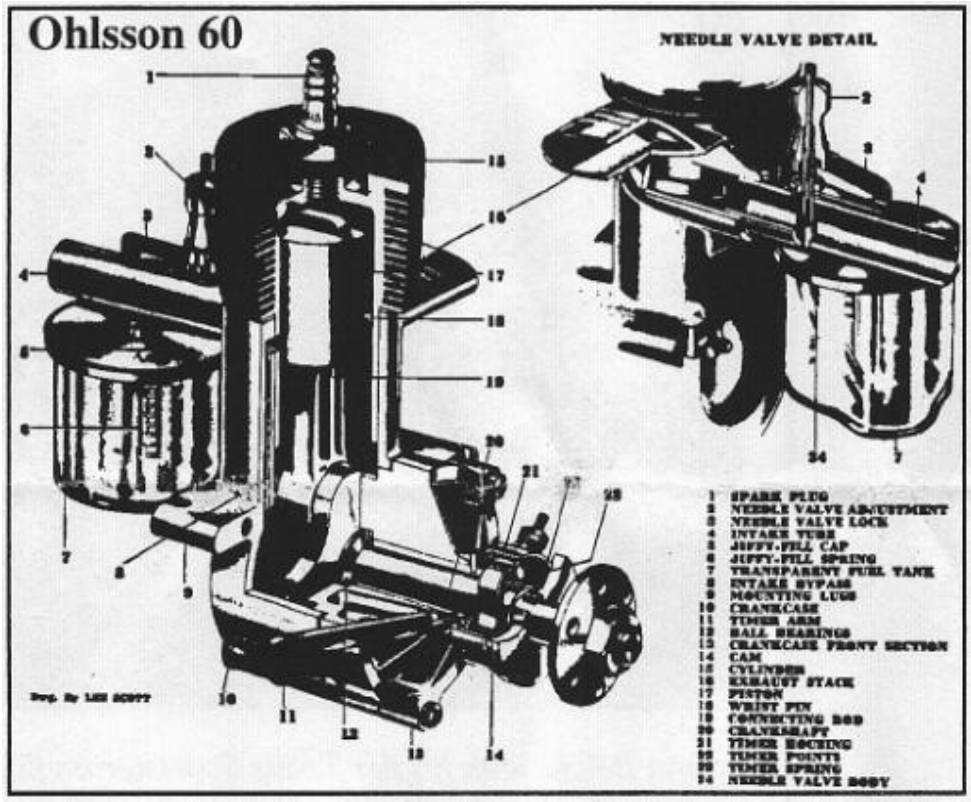
After any needed cleanup of parts, reassembly began with putting a new gasket in place, then clamping the cylinder/case assembly together in a special fixture. He then re-measured the seating depth and clamped the cylinder down to the proper depth. Actually, he first removed the ridge inside the top of the cylinder, then seated the cylinder about .003" deeper than original, slightly increasing compression.

He had made up small steel discs which matched the diameter of the end mill used to mill out the original case bosses. George had found four different mill/disc diameters needed for various O&R's. One of these discs was placed into each of the two case holes, and spot welded to the cylinder wall with special "e" shaped electrodes in his electric spot welder.

With the cylinder securely back in place, he finished the job by placing a second aluminum disc over each of the welded discs, then using a tool he made to press in a concentric circular boss design, similar to the originals.

Before re-assembly of the frontplate, George would also true the frontplate on a lathe, so the mounting surface is at right angles to the main crankshaft bushing. Many of these are not true on O&R's as was described by Bill Schmidt in SAM Speaks issue #116, Pg. 19. Incidentally, Bill has contributed some of the best material used in our O&R Tips series, and I've designated that particular contribution as tip #16, even though we never printed it in the SAM 26 Newsletter. I don't like to waste space duplicating stuff that will, or can be read elsewhere by most of our members. Now we get down to the bottom line. Would George do this service for you?

The answer is not only yes, but he did it at a most reasonable price. Just $35 + $3 shipping for the service described above. And if you wanted an O&R 60 crankshaft balanced using red brass counterweight inserts, you added $20 for that service. George would run the engine, and often found and corrected other minor things as part of the service. He was doing this primarily for fliers, not collectors.



from Bill Northrop's workbench

CARL GOLDBERG

Twenty three years ago, when I returned from my first Toldeo Weak Signals R/C Exposition (or was it Mid-Winter Conference back then?), I could hardly wait til the next meeting of our R/C club, to tell everyone about my exciting experience ...I had just met Carl Goldberg for the first time in my life, a guy I had read about for years, whose fame was worldwide, whose model designs I had built (and sometimes succeeded in flying), and whom I just flatly admired. And yet, because I commented to him that I preferred radial mounting of engines to the beam mounting he designed into his just-introduced Falcon, this famed model designer, flier, and manufacturer cornered **me** for an hour and a half, asking **me,** a nobody upstart, how I mounted the engine, why did I like this method better, how would I change the Falcon...and on and on. He was asking questions and listening intently, and I was on an ago trip that wouldn't quit!

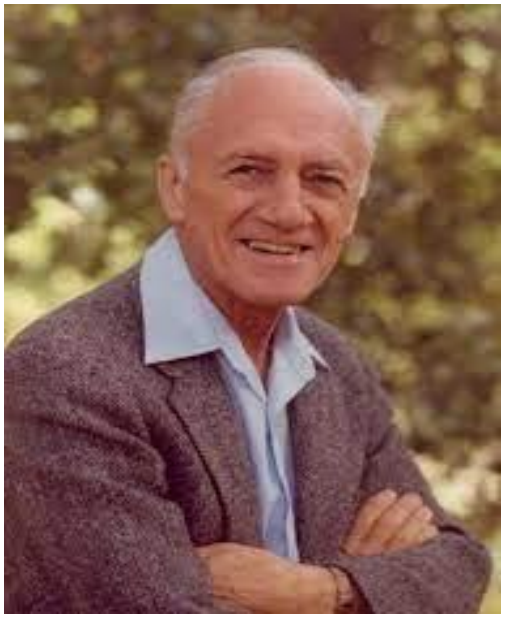
Well, what it amounted to was that he made me feel like someone special, when in fact, **he** was the one who was something special. Carl and I had many similar conversations in the ensuing years; over dinners, long telephone calls (but only if he placed them), at the Nationals, at trade shows, or at a flying session. And I began to realize that even though he mostly asked questions, or listened carefully... when you thought back on the conversation, you became aware that you had learned as much, or more, than he had. He had told you what was on his mind, but you ended up being the one who said it...Gosh, did that come out right?

After much thought about how to write this rememberance to Carl, I decided not to bemoan his passing...He wouldn't really care for it, and I don't want to do it, either. I would much rather remember him as I knew him...a dear man...and that's enough for me.

It does only seem right, however, to act on the wishes of his family, and transmit the following message from them. It is also typical of Carl that he would want it done, so that others will benefit from knowing the cause of his death.

"Carl Goldberg saw life as an opportunity for learning. As one co-worker said, 'He was never embarrassed by failure; he saw it as a means of instruction.' For this reason, we feel sure Carl would want even his dying to serve as a lesson and benefit to others.

"Carl was a victim of acquired immune deficiency syndrome, commonly called AIDS. This (at present) incurable disease, first recognized in June of 1981, destroys the body's ability to fight off many serious infections and cancers. To date, most victims of AIDS have been Haitians, homosexuals, and intravenous drug abusers. However, hemophiliacs and an ever-growing-number of other blood transfusion recipients also are afflicted with AIDS. Carl fell into this last group, having received 17 units of blood during his bypass heart surgery in July, 1981. As is usual with AIDS, the contaminated blood



CARL GOLDBERG

OCTOBER 20, 1912 – JANUARY 28, 1985

he received at that time did not make him sick until some 2 to 2-1/2 years later, and it took another year before doctors were able to diagnose (just a few days before he died) the cause of his weakness and ill health.

"It is important to realize that there was no way to know the blood transfusions Carl received carried this terrible disease. There has been recent progress with a screening test to identify contaminated blood; however, this test has not been perfected and the research continues. Meanwhile, people in need of blood transfusions should follow a few simple guidelines. (1) In an emergency situation, do not be afraid to receive blood. Most high-risk individuals for AIDS are voluntarily deferring themselves from the blood donor pool, and the new screening test will further decrease the risk of getting AIDS from blood. The chances of being given contaminated blood are now quite small. (2) In non-emergency situations, such as elective surgery where blood transfusions may be needed, inquire of your hospital whether you can donate your own blood in advance (to be frozen and kept for you), or arrange to have close friends donate the needed blood.

"Finally, just as Carl's life was meaningful to so many, his family hopes his death will prove a benefit to others. His wife and children urge you to contribute to AIDS research, so that better blood screening procedures and, ultimately, a cure, will be found. Checks may be made payable to the Regents of the University of California and sent to UCLA Medical Center, Division of Clinical Immunology, Room 52-175, Los Angeles, CA 90024. Be sure to enclose a note stating your donation, in memory of Carl, is intended for one of his doctors, Michael S. Gottlieb, MD, to be used in the laboratory for AIDS research."

WORKBENCH

What a disasterous 1984-1985 winter holiday season the modeling world has had! It started with the passing of Peter Westburg on Thanksgiving Day, then Paul Plecan a few weeks later in early December, followed by Paul Runge on December 30. Next it was Hans Weiss, long-time proprietor of Wilshire Hobbies, soon after the IMS show, and then Carl Goldberg on January 28. At Carl's funeral on the 30th, Larry Jolly and I were wryly commenting that it was fortunate January only had one more day to go, and the unlucky three-month holiday season would be over. And sure enough, although it was more of a personal loss for me rather than a public matter, ten minutes after arriving home that evening from Carl's funeral, I received word that my mother passed away just about the time I was coming through the door. Though she had just had her 91st birthday on the 13th of January, and had been a patient of the retirement home infirmary for the past two years, it was still saddening that I had to be over two thousand miles away at the time...An unfortunate holiday season indeed...but life goes on.

From Model Builder Magazine - May, 1985

OLD ENGINE ANALYSIS

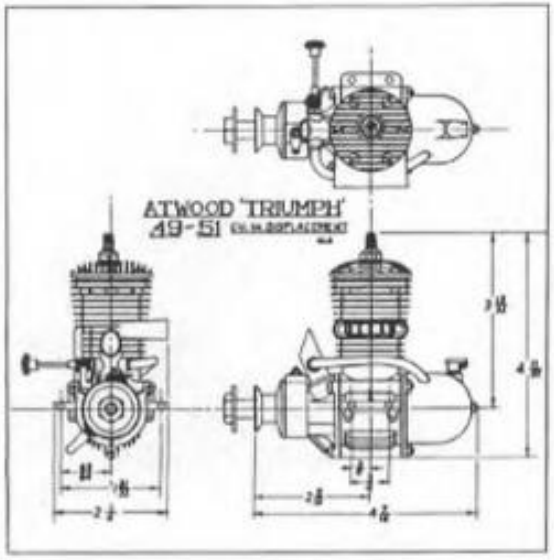
Atwood Triumph 49 & 51

By Charlie Bruce

The Atwood Triumph, introduced in 1948, were the last spark ignition engines by Bill Atwood. Among the most beautiful engines ever produced, they look much like a small Anderson Spitfire. They are all die cast aluminum with front shaft rotary valve, plain bearing, ringed piston, and aluminum fuel tank. They run better on alcohol fuel than gas and oil. Since they came to the market as glow plugs were getting popu-lar they were produced with spark timers for only a few months, then were sold in various glow transition models and finally in a totally glow engine with different front case section and prop drive.

The 51 is a 49 with the bore increased by 0.009". Size of the engine is usually stamped on the top of one mounting lug.

Disassembly: To remove the timer, first remove the prop nut and prop drive spool. Note that there is a special steel spacer washer between the crankshaft and prop drive spool. The timer is retained by a single 3-48 screw passing through a spring and friction plate to provide tension to hold the timer in position. Rotate the timer about 1/2 turn clockwise after removing the screw to allow the tail of the moving point to clear the slot in the crankcase bearing. Timer will now slide off.



Tank is retained by a long central 4-40 screw. There are gaskets at each end.

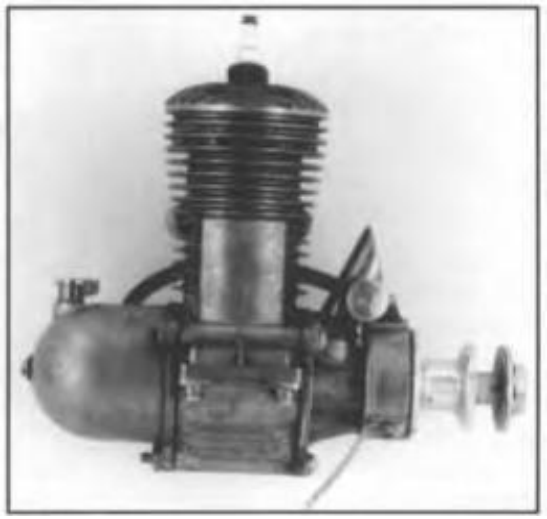
The three long 4-40 screws with nuts hold the front and rear plates onto the crankcase. There are identical paper gaskets front and back. On removing the backplate, you will note a circlip holding the con rod onto the crank pin. Using special circlip pliers, carefully remove the clip without distorting it. The front case will now slip out and the crankshaft can be removed. On original spark engines there is the two piece thrust bearing consisting of a bronze spacer with eight 1/16" diameter balls hardened steel washer. Glow engines have no separate thrust bearing.

Triumph instructions say not to remove the lower case which is retained by four 3-48 screws. You don't need to remove it to disassemble the engine. However it is easier to remove the sleeve if you drop the lower case. It has two 0.005" thick paper gaskets against the main upper case.

The head is retained by six 3-48 screws and the gasket is usually stuck tight. The piston/rod assembly will push out the top of the sleeve.

Sleeve removal is not usually required for general clean-up. It's a shrink fit in the cylinder, so you must heat up the cylinder quite warm to remove the sleeve out the top.

Reassembly: Re-heat the cylinder and drop the sleeve in place, carefully aligning the ports. The exhaust ports (6 large) are placed higher in the cylinder than the bypass ports (4 small). If you removed the lower case, be sure the thin gaskets are in place and that the front and back gasket surfaces are flat before you tighten the four screws. The piston/rod assembly (remember the wrist pin pads!) can be put in from either end, if the lower case is removed. The rod is symmetrical, but be sure the bronze bushed end goes on the crank pin. Some rods are bushed on both ends, in this case the end with the oil hole goes onto the crank pin. I press the rings in place with a thumbnail while keeping pressure on the piston. Be sure the wide side of the piston baffle faces the exhaust. This is a good place to note that the case is symmetrical so you can have a right or left side exhaust. Just be sure the piston matches your choice. If your engine has the two-piece thrust bearing, slide the ball retainer on the shaft followed by the steel washer. The crank with thrust bearing in place slides into the front case and that assembly slides into the main case (gasket!). Slip the crank pin into the lower end of the con rod as you slide the front case into position. The case lugs are not symmetrical and it will go on only one way. Replace the circlip on the crank pin being certain it's not bent and is fully seated. The back plate with gasket is slipped in (one position only) and the three through bolts tightened evenly.



The head with gasket is oriented so that the lobes extending into the cylinder match the piston contours. Tighten the screws in a criss-cross pattern but be careful, those little fellers are easy to strip or break.

You will need to pry the tail of the moving point out a bit to slip the timer over the front bearing. Locate the moving point in the bearing slot and replace the retaining screw with the friction plate against the timer housing and the screw through the spring, holding it all in place. Replace the prop drive spool with its steel spacer washer.

Point adjustment is made by loosening the screw through the moving point pivot post and turning the post. The pivot post is eccentric and will change the point gap if rotated slightly. Tighten up the screw when points are adjusted. It will take some "cut & try" on this, but it will work.

The spark plug is Champion VR-2 with gap of 0.012". Point gap is 0.008 to 0.010. Prop mounting hole is 11/32" diameter.

Engines, Parts, and Repairs: Because of the short production time on original spark ignition Triumphs, they are hard to find. However a large number of glow engines have been converted to spark ignition and are more available. The late Otto Bernhardt of 77 Products, 17119 So. Harvard Blvd., Gardena, CA 90247, converted many of these. I think Phil Bernhardt is still converting glow engines.

I have a few Triumph parts (not timers) and can do repair work.

TEST RUNS: Triumph 51 on 3/1 gas & oil

Top Flite 11/7 7600 rpm RevUp 12/6 7400 rpm.

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AUSTRALIAN MADE CONTROL LINE MODELS

by Terry McDonald of "Wind in the Wires" (from material supplied by Alwyn Smith)

Readers of my column, Wind in the Wires, will know that I am an ardent collector of old control line plans and I'm always looking for something new to add to the list of my plans service, hoping to keep this great branch of the hobby alive. In Yearbook No. 12 I wrote about a batch of early German stunt models which I had acquired from Sam Alexander and to which I've since added a couple of other Graupner plans and some Italian ones (but you'll have to read the column to find out about those). Over the past few years, I've managed to add a whole pile of Australian material to my collection which I will now tell you about.

I regularly correspond and swap plans with Alwyn Smith who lives 'Down Under' in Melbourne. Alwyn is a mine of information regarding aeromodelling in that part of the world and has a huge collection of Aussie plans, a selection of which I have copied here.

My own first inklings of the Antipodean control line scene were the plan of Calamity Jane in the *Aeromodeller* and later mentions of Brian Horrocks who won the Gold Trophy with his own designed model The Larrikin (or perhaps Waltzing Matilda - I've heard both names mentioned). What I hadn't realised was what a well established kit producing industry they had over there. I had assumed, due to the relatively small size of the home market, that they would largely buy American or British products but while that may have been true of engines, it certainly wasn't with regard to kits.

The first Australian kit which I saw was a Kookaburra Kits Kawasaki Swallow (Tony), a semi-scale stunter for 2.5 to 3.5cc motors, designed by Geoff Pentland. This was because my brother Stuart built one in about 1964. It was a very pretty little plane which performed well on an Enya 15D and I still have the kit plan; perhaps I'll get round to building it one day! This is much more scale-ish than the Frank Warburton Tony Junior (a scaled down version of his Gold Trophy winning design) which Bradshaw Model Products kitted also in the 60's. My next encounter was in the early nineties when I bought a copy of the Hearn's Swift Team Racer plan from the John Pond Collection, this was a very conventional looking, 1955 FAI type model and should perform acceptably, though I haven't seen one built, up to now. I can't leave the topic of what I've seen of these models without a mention of the Shorty, a very ugly Class A Team Racer which won the Aussie Nationals in 1956. The model was quite well favoured over here some years back and I remember Alan Jupp campaigning successfully with one at the time. Apparently the beast flies very well and has good ground handling but as the photo shows, it ain't handsome by any stretch of the imagination!

I knew that there was a Vintage Team Racing movement over there in Australia as we have had the pleasure of seeing some of their teams competing at the Nationals. Norman Kirton and Hans Bertina made it to the finals of Class A, as did John Hallowell and John Duggan, though both teams were flying British designs. Looking on the various Australian websites shows some of their own productions and it seems that they are flying a vintage B nowadays which they didn't a few years back. Of course going back a long way, the Aussies were the only country to fly Class C with engines up to 10cc capacity. I've been told that these were the real hairy chested stuff and I believe it too, the pull on a fast B model is quite enough for me thanks! Robin Heirn, the speed flier, is also quite a regular at the Nationals but does not fly vintage to my knowledge.

I had the pleasure of meeting Alwyn Smith at the Nationals a couple of times, then we spoke on the phone and wrote to one another and hence got into the plan swapping mode. When I received a batch of kit plans for early stunters I thought that an article on the subject of Australia's contribution to control line would not come amiss in this Yearbook. At various times Alwyn has sent me Xeroxes of early Australian model magazines such as *Australian Model Hobbies*, *Australasian Aeromodelling* and *Model News*, which helped to provide a framework for this article. Firstly, the magazines included plans of team racers based on the American FAST Club rules. In 1950 the Firecracker was the first practical plan followed by the Firecracker II in 51. The further development of this line was Starbomb which was published in early 1952 and later kitted by ***Model Aircraft Industries*** of Glenelg, South Australia under the name of a 'Deluxe Superkit'.

It wasn't just team racers which were featured in the Aussie magazines, Les Organ sent me the page from *Aircraft* which featured Wildfire II, a handsome flapped model for the Anderson Spitfire designed by Don McLaren. This large model won the Australian Nationals Stunt and the plan was published in the May 1953 edition of the magazine. There is a note in the write up quoting that a 3lb model flying at 70 mph is not exactly a gentle plaything! Les confirms this and says it pulls like an elephant but is a superb stunter. It was also available in a smaller size for 35–40 motors.

Hearns' Hobbies

The firm of Hearns' Hobbies of Melbourne seem to offer the widest range of kits of any Australian manufacturer. In an advert dated Sept 1951, the names of the following models are mentioned. Competitor (Class A racer), Super Skylark (5cc stunter), Lapmaster (Class B racer), Little Joe (stunter), Jitterbug ($\frac{1}{2}$A ?), and Flapjack, 'the ultimate in stunt planes for class B engines' (well that's what the ad says anyway). According to the advert, all Hearns' kits contained ready cut ribs, spars, tips, tail surfaces etc., ready made tank, sponge wheels and all hardware, so they sound good. The prices quoted are on a par with the imported Keil Kraft kits advertised but if the prefabbing was any good, they had to be a better bet.

The local magazines continued to turn out a series of plans; the ones which I have are team racers such as the Hoofmark, Wolverine, Easterner and Tracer (Classics). The adverts I have show a range of machines available, *Hearns* show the Sabre Trainer, Frisky 2.5cc stunter, scale SE5 and the Swift T/R in about 1957. The other *Hearns* plans which I have, the Demon and Cadet, are from the early fifties and show two early stunt schedules. The name Sabre 2.5 diesel on the Cadet plan dates it to before ca 1956, when Gordon Burford lost his case with North American Aviation and had to change the name to Taipan.

Other Manufacturers

I have mentioned ***Kookaburra*** already, they seem to have been a latish arrival on the scene and were the product of Geoff Pentland. He still trades, though mainly in books I believe, he is associated with those excellent Kookaburra books on the colours of Luftwaffe aircraft in the Second World War. I remember them as running a close second to the definitive "Dora Kurfurst + Rote Dreizehn" from my plastic kit building days. Geoff still publishes the plans for his models which are largely semi-scale stunters: in February 1960, he advertised Chipmunk, Tempest 52", Spitfire 54" and 32", Me 109 36", a profile 36" W/S Aircobra and Spook, a combat wing. Incidentally, the same magazine has a glowing review of the *Hearns Hobbies* All Australian, the plan of which I have, a large 600 sq.in non-flapped stunter for the 35–49 sized motor.

Aeroflyte are another company who appear later in the golden age of control line, their advert in *Model News* for December 1960 shows quite a wide range of different types available. Team racer Fury for Class A, listed as a winner at the Nationals, is quite a smart looking little plane, though I fancy that the spats might not last long in the hurly-burly of modern racing. It does have a sensibly placed wing and shows a high mounted tank which fits in with modern ideas for an effective racer but it does not have a drop in engine, that other modern requirement. Other *Aeroflyte* offerings are two trainers, the Mustang and Taipan, a combat

wing, the Firestreak and Rambler, a B racer(?). For stunt they have Stuntmaster for 5 cc stunt and combat, Husky (1.5 cc), Typhoon F86 and Vulcan P17 (2.5 cc) and top of the shop the Thunderstreak, a handsome looking 54" model for 35 engines which looks similar in some ways to the Bob Palmer Thunderbird. A later advert shows four semi-scale stunters, Hurricane and Mustang for 1.5 cc and Spitfire and Kittyhawk at 36" span for 2.5 cc. I saw two of these kits on sale from the estate of the late Dave Campbell but didn't inspect them closely. Aeroflyte are still in business in Adelaide, South Australia, a recent coloured catalogue which I've seen shows mainly R/C models but there are still a few small control liners in evidence.

W.W. (Bill) Evans' *Aristocrat* Kits produced the following:
Thunder Bug; 54" span Stunt model with shoulder wing. Alwyn et al have put together a full size plan of this model as none was included with the kit, only a ¼ size drawing for building instructions. They have three different tailplanes and elevators from different original kit built models and two different fin and rudders. Ken Taylor advised that modifications to the kit were made during production. Alwyn obtained an original ThunderBug model a number of years ago and it is only 50" W/S. Ken told him this was correct for the early kits but the wing tips were extended to 54 later during kitting. The fuselage back top also appears to have been altered to give a more rounded top and the rounded fin and rudder fitted at the same time. (1958)

Stunt Star 44" span stunt model for 5.0cc engines.

Star Fire 32" or 33" span smaller version of the Stunt Star, for 2.5cc engines. Both wing spans are shown in their advertising (1958)

Star Shell Class "A" T/Racer.

Star Bomb 5.0cc Class "B" T/Racer from 1952.

Other *Aristocrat* kits were advertised but at this stage no one can remember any kits being sold, although the late Dave Campbell did obtain one from a seller in Perth in Western Australia.

The 1958 adverts for these *Aristocrat* Star Kits, produced in South Australia, show the Starfire and Stuntstar stunt models and a picture of the Veco Redskin masquerading as one of their team racers Starshell and Starbomb – very naughty. They also listed a range of Starstreaks in differing sizes but described as beginners' models.

Central Aircraft **(Melbourne)**
Central Zero Semi scale and stunt? Won scale at the Australian Nationals in Tasmania in 1957?

Central Cyclone Biplane Stunt by Les Heap in about 1951

Central Centaur 5.0cc Stunt model by Ken Taylor Flies very well.

Central Whirlwind 34" W/S stunt model for 2.5cc with fixed flaps

Central Whirlwind 34" W/S stunt model with flaps

Central Aircraft did have a number of other small C/L trainers but at this stage we do not have names or plans

Montgomery Models **(Melbourne)**
Ramrod 48" wing span Stunt Model designed by Ian Hooper winner of many competitions from about 1957. Ian designed the model to 52" span but it was kitted to 48" due to availability of balsa to this length. Kits were produced by Ken Furlonger and Ken Taylor

Stilleto 34" span stunt model, very thick, mid wing, with excellent performance with the O.S. Max 15 without the muffler.

Bambino 26" W/S built up wing, profile fuselage. This is a good advanced trainer with an average 1.5cc diesel

Tiger 18" W/S Sheet wing, profile fuselage, beginners trainer for .75 to 1.0cc engines.

Hobby Den **(Melbourne)** Wolverine "A" T/Racer kitted about 1952.

Super Kits **(Ballarat)** Accelerator Class "B" T/Racer from 1957 designed by Bob Hyde, plan drawn by Mark Wise. Don Blackam who has represented Australia in F1B a number of times over the last few years was involved with Bob and Mark and probably a few other modellers from Ballarat in producing the Accelerator and the Cutlass combat models.

Cutlass 5.0cc Combat model.

Performance
I asked Alwyn about some of these models in practice and he wrote about the Frisky. The leading edge of the wing is cut away to accommodate the fuel tank which weakened it but the model is a very good flier with an engine like the O.S. Max I & II .15 glow. These are motors which are very powerful and light. With a current engine like an O.S. 15FP with muffler or an Enya 15 with muffler, the Frisky needs weight in the tail, which is a little like the dog chasing its tail! As the new engines are more powerful but heavier, when you add tail weight for the correct balance for aerobatics, the wing loading goes up and you lose all the performance gain from the newer more powerful engine. The All Australian receives rave reviews in the press of the day who rhapsodise about the performance of a Merco 35 powered version in the hands of Monty Tyrell at the Nationals. It looks a capable beast from the plan but with no flaps it would be at a disadvantage flying the F2B schedule as required for BMFA Classic Stunt.

Who was the best Aussie designer? Well, I would have to name Ken Taylor, as he was associated with a number of the kit producers (Hearn's Hobbies, Aristocrat and Montgomery) and he also produced the Crescendo class "B" T/Racer and a bigger version of the Crescendo at 36" W/S.

Alwyn's notes on the Hearn Family
There were three brothers, Keith (deceased) Jack and Bruce, and I knew them all to speak to, and spoke to Jack a little while back. I was trying to obtain some information about one of their plans and told him that I (Alwyn writing) had about 45 Hearns plans; he was amazed that they had produced so many kits. Jack left the hobby trade in the late fifties but his brothers carried on working for the firm, even after they had sold the business.

Geoff, the son of Bruce Hearn, still flies R/C Gliders with my friend John Lee in Melbourne and young Bruce (Son of Keith) flies full size A/C and still has many of the original HH plans which he loaned me many years ago to copy. I had many HH plans that Bruce did not have and we were able to help one another.

We should be able to obtain some information from some of these people. I have spoken to Jack Hearn many times. He was flying CAC Wackett Boomerangs in the Second War, and I am guessing that he is about 85 now. The Hearn family owned a DH Hornet Moth in about 1948, and I have a photo in one of my magazines taken at the Nationals with Jack wearing a Monkey mask after flying in to see the model flying.

It had been suggested to me that the Diesel Demon Mk II was the first C/L kit put out in Australia but I spoke to Ivor Stowe (Ivor F) a few years ago and he told me that there was a Diesel Demon Mk 1. Apparently the same model but with a solid sheet wing. It was designed by Noel Waldron. I know that Les Organ told me that he had one with a Mills 1.3, and that it was timed at 60 MPH.

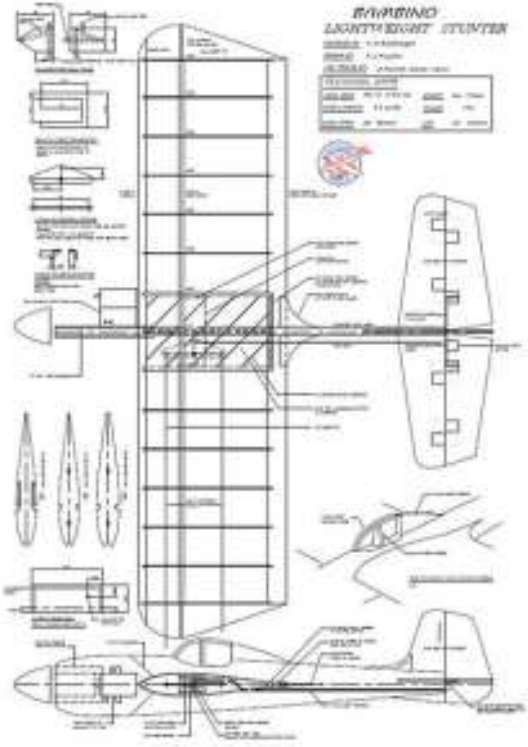
Conclusion
I hope that this short insight will tempt some of you to try a design from "down under" to provide a little bit of new stuff for the British competition scene. I've only scratched the

surface of this fascinating topic as yet, Alwyn has sent me much more material to ponder on and Les Organ has sent me a copy of one of his very early designs which has recently won a Vintage Stunt contest. However, I want to leave room for a number of plans to give you a good idea of what they look like.

Appreciation

I'd like to thank Alwyn for his considerable efforts in aid of my writing this article and also Les Organ who has supplied other plans and an idea of what the team racing scene was like in the Southern Hemisphere when we were all young.

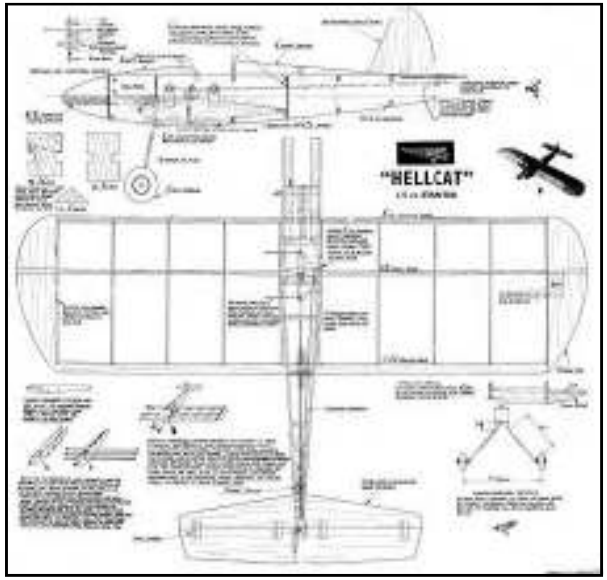
Brian Horrocks with the Larrikin Mk 3 which he won the 1961 Gold Trophy.

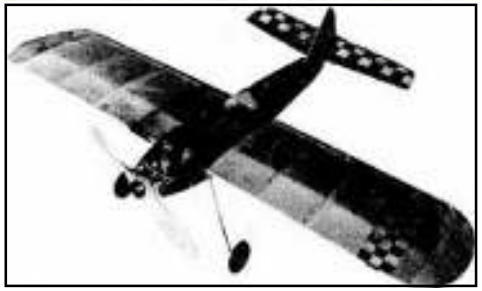


Hearns Hobbies Demon.

Montgomery Stilleto.
Montgomery Ramrod.

Cutlass Combat Model by Super Kits.
Hearns Hobbies Hellcat.





Text is Italian. According to it, this model is a scale reproduction of the "Professor" sailplane which flew in 1928 at the Wasserkuppe / Germany.

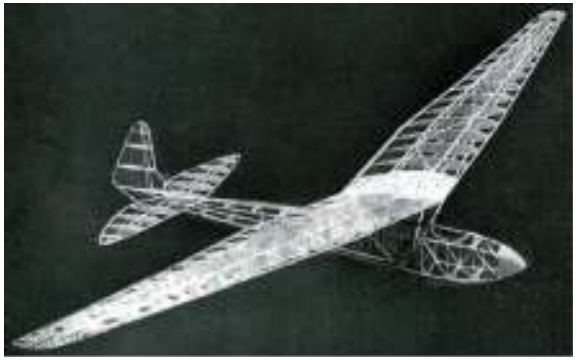
Inked by Arve Mozzarini. Named M-4 but it's a scale model of DFS Professor German sailplane about 1928.

PDF Plan: https://outerzone.co.uk/plan_details.asp?ID=11964

MOVO
MODELLI VOLANTI
MILANO

VELEGGIATORE
M. 4
TAV. D – (PROFESSOR) –

N.
LUC. Mozzarini
VISTO
SCALA 1:1
DATA 19-5-46



June, 1955 319 AERO MODELLER

An Opinion on the Special . . . by R. H. Warring

INITIAL IMPRESSION of the "Special" was that it was essentially an aeromodeller's engine, made down to minimum size and with all unnecessary weight removed. Whatever the claims that a little extra weight may not be important—and perhaps such claims are quite justified—when one thinks of "optimum" aircraft design one automatically links with it minimum weight. In this respect the "Special" rates top marks.

Design-wise the "Special" is quite orthodox and Dave is evidently an admirer of the Oliver stable, as seen in the form of porting he employs, though the cylinder retaining ring is a novel departure from the orthodox.

Being tailor-made, as it were, to suit Dave's own requirements, the test engine had one or two features which the writer would have altered. There was no positive lock on the needle valve, also the contra-piston fit was tighter than the writer would consider comfortable to handle. But apart from these minor points, everything else had the appearance of being "right".

Starting characteristics appeared quite satisfactory, without being outstanding. Hand-starting with small propellers was typical of a racing engine and the "Special" did appear to like a really generous prime and showed a definite preference for the fuel tank being located on an approximate level with the needle valve.

Tests were started with large propeller loads, when it was quickly evident that the torque output was going to be at least as high as any 2·5 c.c. engine yet tested. Maximum torque was generated at 8,500 r.p.m., there being a slight loss of torque with decreasing speed, but running continued satisfactory down to below 7,000 r.p.m. With increasing speed, torque output fell smoothly and readings were obtained in excess of 15,000 r.p.m.

The corresponding B.H.P. curve showed a peak at 12,700 r.p.m. Corresponding peak B.H.P. was ·243, which is exceptionally good. The "Special" does in fact, conform almost exactly to the expected output of top-class racing engines of 2·5 c.c. size, whilst its power/weight ratio is appreciably better than average.

Fuel used was quite heavily nitrated, the exact formulation being a matter of conjecture. Basically it started off as 25% Ether, 50% DERV, 22% Castrol XXL, 3% Amyl Nitrate with a *further* proportion of amyl nitrate added to Dave's own ideas. Some separate r.p.m. checks were made with other fuels, all of which showed varying degrees of inferior performance.

Summarising, the "Special" undoubtedly lives up to the requirements of a high-performance 2·5 c.c. engine with no apparent vices, consistent in running with a relatively low vibration level. Particularly commendable is the power/weight ratio achieved whilst retaining an essentially robust unit. In fact, a thoroughly excellent engine all round.

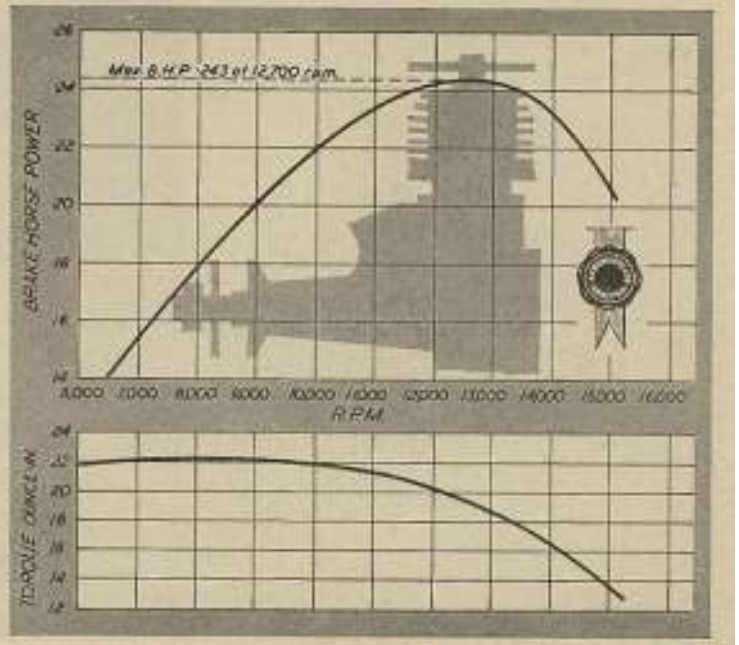
Sugden Special

DATA

Displacement: 2.49 c.c. (.152 cu. in.).
Bore: .568 in.
Stroke: .60 in.
Bore/stroke ratio: .93.
Bare weight: 3½ ounces.
Max. torque: 22.2 ounce-inches at 8,500 r.p.m.
Max. B.H.P.: .243 at 12,700 r.p.m.
Power rating: .0975 B.H.P. per c.c.
Power/weight ratio: .07 B.H.P. per oz.

PROPELLER R.P.M. TESTS

Propeller ins. × pitch	r.p.m.
8 × 5 (Frog, nylon)	13,500
9 × 6 (Stant)	10,300
10 × 6 (Tracut)	7,800
11 × 5 (Stant)	7,000
7 × 10 (R-S)	10,700
11 × 8 (Whirlwind)	5,500
9 × 3 (Tiger)	11,400
9 × 4 (Stant)	10,700
7 × 4 (Stant)	13,200



SUGDEN SPECIAL

The well-known Sugden Special from 1950's England was a 2.5 cc crankshaft front rotary valve (FRV) plain bearing diesel which was specifically designed for home construction by professional dentist and skilled machinist Dave Sugden of St. Albans (who later relocated to Canada). This iconic design dates back to December 1954, when a series of construction articles written by Dave Sugden was launched in "*Aeromodeller*" magazine and the relevant plan was published. Arrangements were also put in place at the time to make crankcase sand-castings available to home constructors.

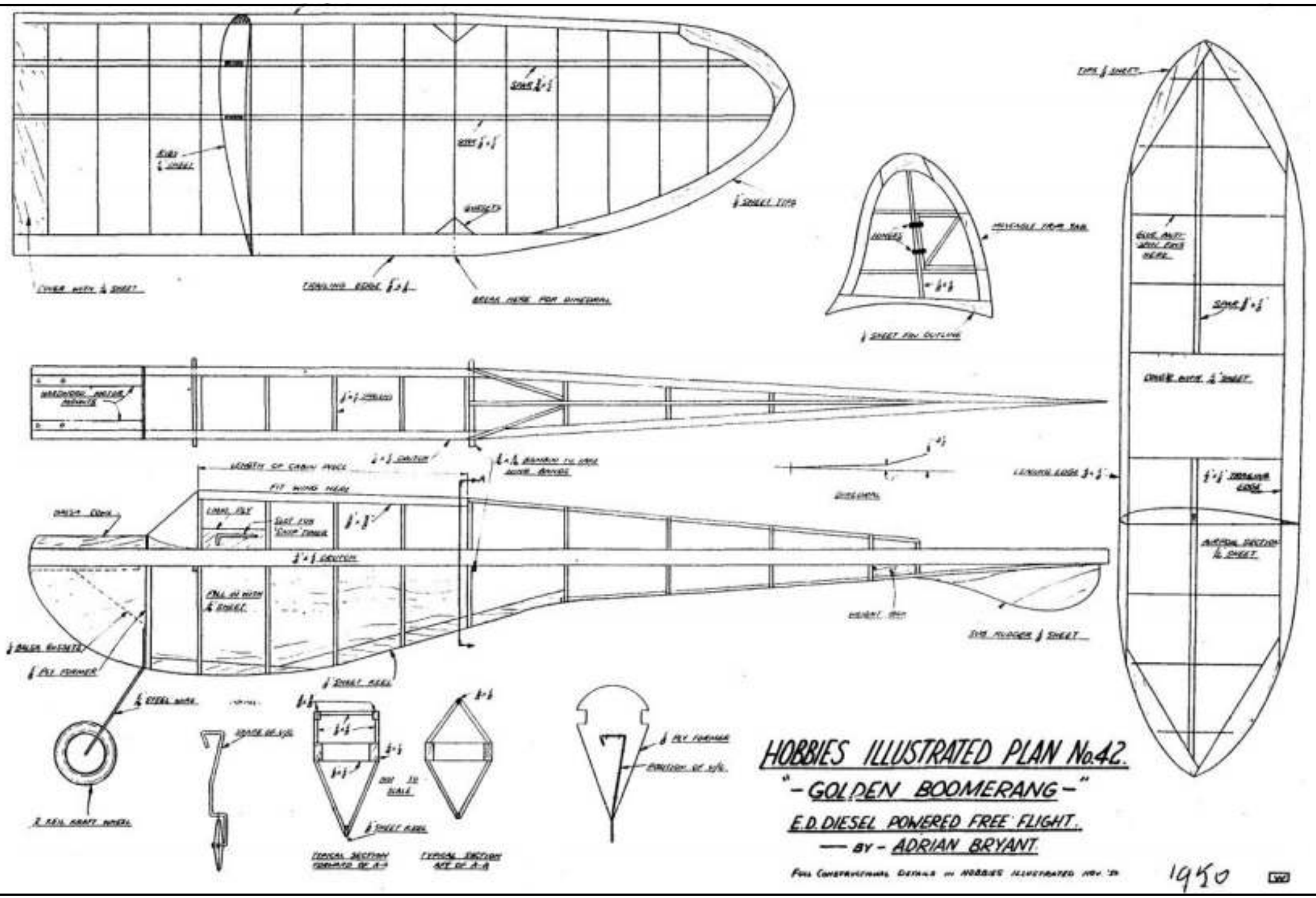
The series of articles in "*Aeromodeller*" later formed several chapters in the 1958 "*Model Aero Engine Encyclopaedia*" from the same publisher. Much later still, the engine became the subject of a most informative article written by Ron Chernich and still available on MEN. That article includes a link to Ron's construction article detailing his own experiences in building an example of the engine. There's plenty of construction guidance available!

Being both light and powerful by the standards of the mid 1950's, the Special was widely seen as an excellent subject both for home construction and for use as a model powerplant. I'd guess that many hundreds of examples must have been constructed in the 65 years since the initial publication of this design! Many of them doubtless saw considerable use in the field.

The one problem for today's constructors is the fact that the supply of the required crankcase castings is highly problematic at the present time. The illustrated example was constructed in 2018 by my fellow Canadian Andrew Coholic from one of his own castings. I hope to publish a test of that example on this website in due course. In the meantime, Andrew's video of the engine running may be found here.

I've had a number of inquiries from people wishing to obtain a copy of the plans. Thanks to the kindness of my good mate Ken Croft, I've been able to provide access both to the plan and to the original construction article elsewhere on this website. Hopefully a new source of supply for the crankcases will emerge in due course.

From Adrian's Model Engines https://www.adriansmodelaeroengines.com


HOBBIES ILLUSTRATED PLAN No.42.
"-GOLDEN BOOMERANG-"
E.D. DIESEL POWERED FREE FLIGHT.
— BY - ADRIAN BRYANT.
1950

Soviet DC-3: The Story Of The Lisunov Li-2

By Sumit Singh

The aircraft was originally given the designation of PS-84.

We've extensively covered the Douglas DC-3 and its operations across the continents since the propeller's first flight in 1935. Yet, just four years after the aircraft hit the skies, its Russian counterpart entered service in the form of the Lisunov Li-2.

Based on a Legend

The DC-3 was an all-American development, inspired by American Airlines' aspirations for a lower version of the DC-2 that could carry 21 passengers during the day and 14 sleepers at night. The aircraft would also prove to be a critical military asset with the C-47 Skytrain/ Dakota edition. Just like the DC-3, the Li-2 was adapted to be utilized in both civil and military fields.

While on paper the Li-2 seems like a rival to the DC-3, especially since the USSR and United States' rocky history, it was actually a development on the model. Lisunov spent two years at Douglas Aircraft Company's facilities between 1936 and 1939 after a production license was awarded to the Soviet Union's government. After dealing with the challenges of translating the design, the USSR's version was designated PS-84 (Passazhirskiy Samolyot 84).

Serving the Country

Altogether, 607 DC-3s and 10,174 C-47s were produced. While not as many Li-2 family members were built, the plane proved to be a success in the markets it served.

Robert Jackson shares the following in Douglas DC-3, The Airliner that Revolutionised Air Transport:

"The first PS-84s had begun to emerge from the GAZ-84 production line in 1939 and by the time Germany invaded the Soviet Union in June 1941, 237 PS-84s had been produced, all in civilian passenger configuration. Production was also undertaken by GAZ-33 at Tashkent, GAZ -124 at Kazan and Gaz-126 at Komsomolsk-on-Amur. Following on from the German invasion many of Aeroflot's PS-84s were impressed into military service, provided with a dorsal gun turret and re-designated Lisunov-Li2. In total, the Soviet factories produced 4,937 Li-2s in many variants, it's roles including airliner and freighter as well as military transport, reconnaissance, aerial photography, parachute dropping, bomber, and crop-spraying."

Along with the numerous military operators, civilian carriers included Aeroflot, TAROM, LOT, CAAV, CSA, CAAK, SKOGA, CAAC, Maszovlet, Malév Hungarian Airlines. Photo: Julian Herzog.

The series boasted robust specifications that proved to be valuable during some of the most critical years in Soviet aviation. The passenger Li-2P had a maximum speed of 280 km/h (170 mph) a cruise speed of 245 km/h (152 mph), and a range of 2,500 km (1,300 NM). Meanwhile, the military Li-2T had three .62 mm (.30 in) ShKAS machine guns, a 12.7 mm (.50 in) Berezin UBK machine gun, and could carry 2,000 kg (4,409 lb) of bombs across short distances.

Showing its versatility

While both the US and Russian types proved valuable in the civilian sector, they served extensively in the military, especially in World War II. The Li-2 was phased out in the commercial field in the decades following WWII. Only a handful of them were seen in China and Vietnam in the 1980s.

Today, the Li-2's European life continues in the form of one airworthy unit. Registration HA-LIX has been spotted on sightseeing tours in Hungary. There have been reports of the type's operations in North Korea in recent years, but all in all, the plane is a representation of the Soviet Union's maturation years following the country's formation in the early 20th century.

The basic passenger variant, the Li-2P could hold up to 24 passengers, while the transport Li-2P could fit 20 soldiers. Photo: VargaA.

THE LAST PAGE

A new biplane paraded down New York City's Fifth Avenue with its propeller in full gear, circa 1920.