The Thermaleer

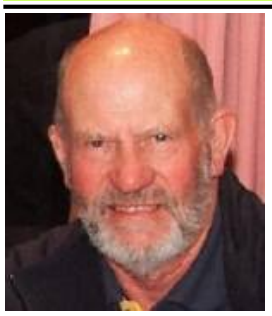
SAM 600 of Australia Newsletter Issue No.148 January - April, 2019

Gordon Burford fly-off at the Canowindra 2019 Champs

NEXT COMPETITONS

September 21st-22nd	**ECHUCA** **Saturday:** 1/2A Texaco, Duration, Burford **Sunday:** 8.30 am AGM meeting, Texaco, '38 Antique, (Climb & Glide)
October 5th & 6th	**WANGARATTA Eastern State Gas Champs** SAM1788 Contest
November 9th & 10th	**COHUNA** **Saturday:** 1/2A Texaco, Duration, Burford **Sunday:** Texaco, 38 Antique { Climb & Glide }
November 24th	**BALLARAT** 1/2A Texaco, Climb & Glide, Texaco

SAM 600 Australia - Victorian Old Timers Association Inc. Committee



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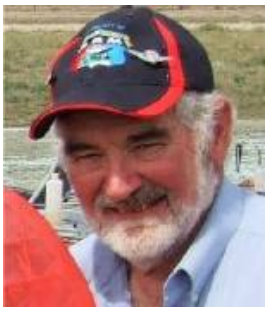

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"The Thermaleer" is the official newsletter of SAM 600 of Australia, Victorian R/C Old Timers Association (SAM600) Inc.

THANK YOU DON HOWIE

I don't know if you realise that Don Howie from the South Australian Old Timers who I am sure you would have met at our Vic / S.A. State champs is one of the most prolific writers about Old Timer models and has been writing for years for various publications in the U.K and for our now obsolete Airborne magazine.

We should feel very privileged that he has now chosen to submit his articles for publication in our Thermaleer so from all of us at SAM600 and any other person that reads our newsletter world wide, a huge thanks to you Don Howie

Brian Laughton

FROM THE PRESIDENT

Kevin Fryer.

Some good news for a change. Joe Finocchiaro, VMAA Secretary, rang me to say the MAAA has approved the submissions of myself and SAM 600 and sent them to CASA. I hope common sense prevails.

There is an unsealed event at VARMS on the 19 May, Electric 1/2A Texaco. Brian has sent out a notation on the comp.

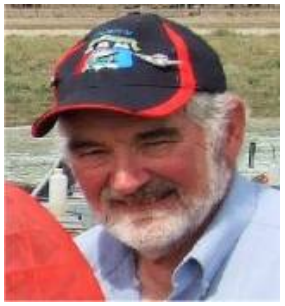
Gary Ryan has down-sized his home and donated his electric old timer models. Some of the 1/2A models are in the photo. We have a selection of the top VARMS pilots ready to take us on.

Last Sunday Emm Barton committed Bary's ashes to the ground. It was a very nice service with a barby and a few drinks after. I found out a few things Barry had kept very secret. Emm is going very well, enjoying her new Toyota Yaris. Emm has planned a trip back to England with her grand daughter Haley. She is seen in the photo with one of the first Stardust Specials built in Australia. Bary's brain child.

Hope to see you all at the 1/2A Comp.

Regards,
Kevin.

CONTEST CO-ORDINATOR'S REPORT Don Grant.



Contest Directors Report 2018-19

Because of my absence for most of the first part of the year and no competitions for the last half there is not a lot to report.

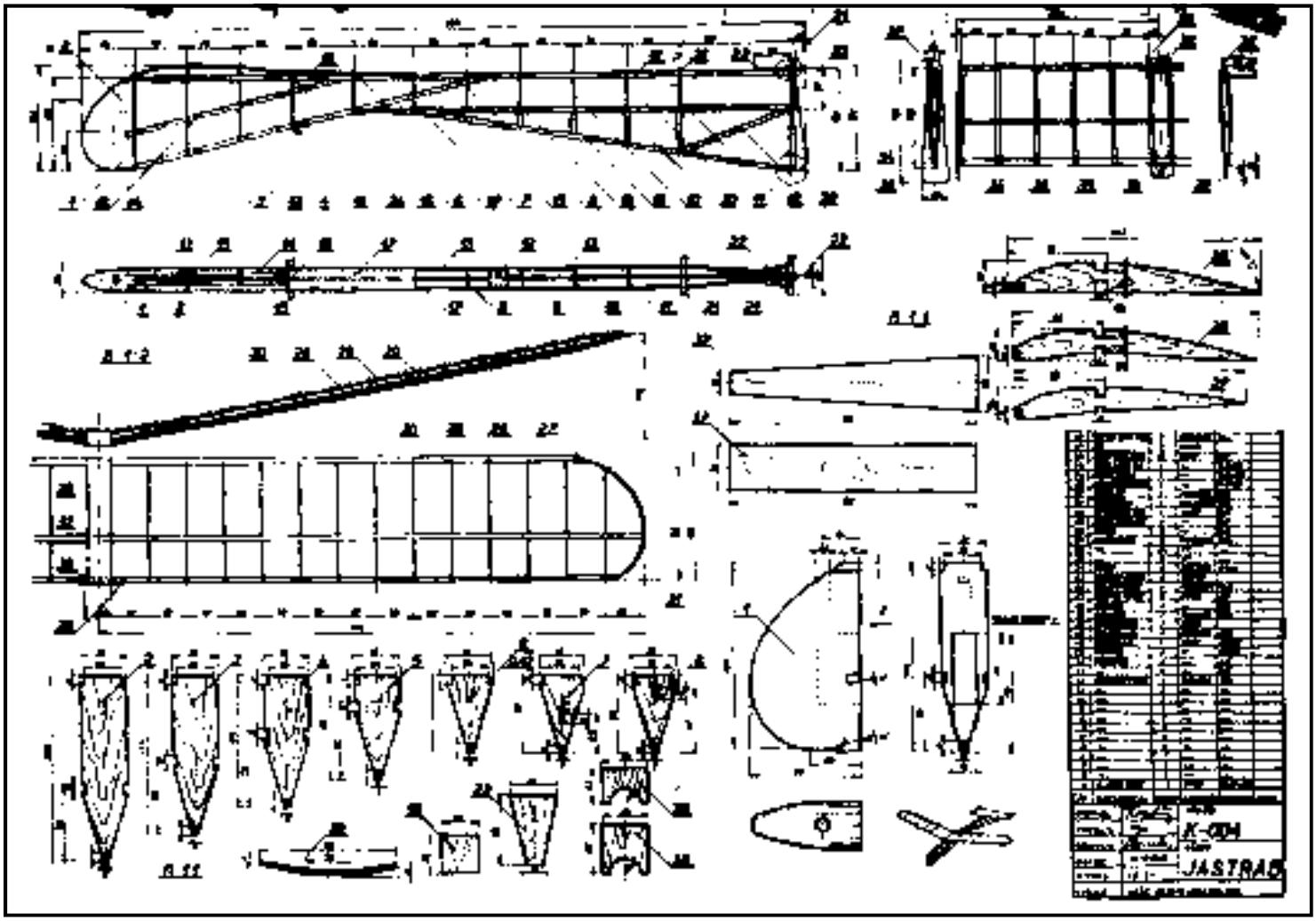
It is difficult to know where we are headed in the future with the CASA restrictions and penalties. President Kevin and Treasurer Brian D. have been working with the VMAA to try and get a better outcome for us with CASA. We can only hope that their efforts are not in vain.

Competition attendance has generally been poor with weather as always being a factor. If we adhered to the MAAA rules most of the events would not be run as the MAAA requirement is for a minimum of five entrants in an event. The exception being 1/2A electric which is our most popular event.

Fuel supply is also an issue as the two model shops I was aware of where nitro could be purchased are either closed or no longer stock it.

Hoping for some better news and we are able to get started again.

Don Grant.



37th SAM Champs Down Under - Canowindra, Easter 2019.

From Brian Laughton.

The distance driving is getting a bit much for me so Brian Dowie was kind enough to offer me a lift with him and Marj, and we arrived about 7.30 pm after a very pleasant drive.

First comp on Friday was 1/2A Texaco. The weather was perfect, a little hot but very calm, there were 18 entries with a great variety of designs, not a mass of Stardusts as we have had in the past. In fact the highest placed Stardust was 4th, there were 6 in the flyoff with Vince Hagerty coming in 1st by 7 seconds with his daughter Sonya and myself tying for 2nd place. We then had to fly another flyoff with Sonya coming 2nd and me 3rd, a good comp.

Next event was Nostalgia with 13 entries and again a great variety of designs. I was the only Victorian to enter and my model hadn't been flown for 5 years and on the climb out on its first flight the motor servo decided to die of old age and would only partially cut off the fuel and the top of the climb aerobatics were a wonder to behold but I managed to get it back to mother earth unscathed. This event was flown in lovely weather but no lift, hence no flyoff. Again, in this event, all 3 placegetters were different designs. Day Over.

Saturday, again beautiful weather for Burford with 15 entries and again a great range of model designs. Of the 15 entries 9 got into the flyoff, but unfortunately, just as the flyoff started, a slight wind came up which didn't seem too bad but when we were part way up the climb the wind seemed to be much stronger and from the opposite direction. Therefore some of us were taken downwind and by the time we realised what was happening we had a tough job trying to get back to the field. Subsequently 5 of us landed out, including me in the dam! Again 3 different designs came 1st, 2nd & 3rd.

Next event was Texaco and again light winds and very good conditions but starting to get hot with 30 plus degrees. This of course was Bomber heaven with 11 of the 16 models being Bombers, with 5 getting into the flyoff, all Bombers, 3 with OS and 2 with Saitos up front. This event was a Queensland clean-up, getting 1st 2nd & 3rd. Day Over.

Sunday, again beautiful weather warm with light winds. First event was '38 Antique with 9 entries. This was the first event that we could get Brian Dowie's engine to run on his untested RC1, and it flew well getting a max on its 2nd flight, but unfortunately, Brian landed out on his 3rd flight which put him out of contention, but he was delighted with the model. 4 got into the flyoff and this was also a very good comp.

Next event was Duration with 18 entries, again a good mixture of designs, again weather perfect but very hot. Unfortunately I ended up flying someone else's model while mine crashed in an adjoining paddock which put me out in the first round. There were some very fast climbing models with all sorts of engines, with 8 getting into the flyoff with Bombers coming 1st, 2nd & 3rd, 2 with 4 strokes & 1 antique engine. It certainly was Bomber Easter. Day Over.

Presentation dinner Sunday evening with a lovely meal and we set out Monday morning for home. All in all a very good competition but the numbers were well down with only 18 entries in the top comp when you consider that only a few years ago they had over 60 entries in Texaco. We don't know if it was the height limit problem? Nationals 2 days later? high cost of fuel? or it's because we are all getting older & more fragile? but it's a shame because it's always been the premium old timer event on the Australian calendar. Let's hope they can attract more interest for next Easter.

Some Happy Queenslanders with their spoils. LtoR:
Dave Payton, Kim Turner, Brad Turner & son. Allen Sully, Gary De Chastel, Peter Cutler, Hubert De Chastel.

O/T Glider

Dave	PATON	Nibbio	1080	1059
John	QUIGLEY	DG 42	1080	1058
Paul	FARTHING	Satyre	1045	
Basil	HEALY	Balestruccio	812	
Peter	Van Waterbeemd	DG 42	746	
Rex	BROWN	Frog Prince	720	
Allen	SULLY	Archangel	595	

1/2A Texaco

Vince	HAGERTY	Bomber	1260	335
Sonya	GROSSMITH	Megow Chief	1260	328*
Brian	LAUGHTON	Albatross	1260	328*
Rex	BROWN	Stardust Spl	1260	315
Peter	Van Waterbeemd	Stardust Spl	1260	
Garry	WHITTEN	Stardust Spl	1260	
Peter R.	SMITH	Valkyre	1228	
Dave	PATON	Stardust Spl	1172	
Peter	SCOTT	Lil Diamond	1126	
Allen	SULLY	Airborne	1056	
Basil	HEALY	Stardust Spl	946	
Brad	TURNER	Bomber	894	
Grahame	MITCHELL	Stardust Spl	664	
Geoffrey	MALONE	Playboy Cabin	418	
Geoffrey	MALONE	Lanzo Racer	56	
Anthony	VICARY	Stardust Spl	DNF	
Brian	DOWIE	Bomber	DNF	
Paul	FARTHING	Stardust Spl	DNF	

Nostalgia

Peter	Van Waterbeemd	Swayback	K&B 40	1260
Peter	SCOTT	Dreamweaver	K&B 40	1242
Grant	MANWARING	Eliminator	OS 40H	1181
Peter J.	SMITH	Swayback	K&B 40	1146
Peter R.	SMITH	Ollie	K&B 40	1120
Allen	SULLY	Swayback		1035
Dave	PATON	Jumping Bean	K&B 40	975
Rex	BROWN	Spacer	Fox 36	939
Anthony	VICARY	Spacer	OS 40H	783
Basil	HEALY	Sunstreak	K&B 40	1 Att
Don	HOWIE	Hyphen	OS 40 H	1 Att
Brian	LAUGHTON	Pencil	K&B 40	1 Att
Brad	TURNER	Fright	OS 40 H	3 Att

Gordon Burford

Anthony	VICARY	Dixielander	Taipan PB	900	2099
Paul	FARTHING	110% Pencil Jr	Taipan PB	900	1923
Peter R.	SMITH	Ollie	Taipan PB	900	1107
Garry	De CHASTEL	Dreamweaver	Taipan BB	900	875
Rex	BROWN	Jumping Bean	Taipan PB	900	O/R
Brian	LAUGHTON	Dixielander	Taipan PB	900	L/O
Peter	SCOTT	Dream Weaver	Taipan BB	900	L/O
Peter J.	SMITH	Faison	Taipan PB (T)	900	L/O
Brad	TURNER	Calypso	Taipan BB	900	L/O
Garry	WHITTEN	Lil Diamond	Taipan BB	878	
Peter	Van Waterbeemd	Ollie	Taipan BB	877	
Vince	HAGERTY	Lil Diamond	Taipan PB	844	
Dave	PATON	Stardust Spl	Taipan PB	789	
Basil	HEALY	Zoot Suit	Taipan PB	778	
Bruce	RAMSAY	Swiss Miss	Taipan BB	627	

Texaco

Garry	De CHASTEL	Bomber	Saito 65 4/	1800	2025
Garry	WHITTEN	1Bomber	OS 62 4/	1800	1895
Dave	PATON	Bomber	OS 60 4/	1800	1255
Peter	Van Waterbeemd	Bomber	Saito 65 4/	1800	1029
Peter J.	SMITH	Bomber	OS 60 4/	1800	891
Brad	TURNER	Bomber	OS 61 4/	1703	
Basil	HEALY	Record B'ker	Enya 53 4/	1681	
Geoffrey	MALONE	Bomber	OS 60 4/	1664	
Dave	BROWN	Flamingo	O&R 60	1596	
Allen	SULLY	Bomber 85%	OS 40 4/	1318	
Rex	BROWN	Lanzo RC1	OK Super 60	1316	
Anthony	VICARY	Bomber	OS 61 4/	935	
Vince	HAGERTY	Bomber	OS 61 4/	820	
Sonya	GROSSMITH	Dallaire	ASP diesel	774	
Peter	SCOTT	Powerhouse	And Spitfire	770	
Peter	CUTLER	Bomber 85%	Saito 56 4/	645	

'38 Antique

Peter J.	SMITH	Westerner	Madewell 49	1800	845
Peter	SCOTT	1936 RC1	Wellbuilt 60	1800	718
Dave	PATON	Schmaedig Stick	ED Hunter	1800	668
Anthony	VICARY	RC 1	GB 5cc	1800	643
Vince	HAGERTY	California Chief	ED 3.46 diesel	1737	
Peter	Van Waterbeemd	Schmaedig Stick	GB 5cc d	1702	
Basil	HEALY	RC1	Sparey 5cc d	1398	
Brian	DOWIE	RC1	OK Suoer 60	913	
Brad	TURNER	Trenton Terror	Brown Jnr	664	

Duration

Dave	BROWN	Bomber 85%	Saito 56 4/	1260	1354
Garry	De CHASTEL	Bomber	Saito 56 4/	1260	1171
Peter	Van Waterbeemd	Bomber 92%	McCoy 60	1260	1108
Sonya	GROSSMITH	Playboy	OS61 4/	1260	904
Dave	PATON	Playboy Cabin	Saito 62 4/	1260	904
Brad	TURNER	Playboy	OS 37	1260	758
Peter	SCOTT	Playboy 112%	McCoy 60	1260	399
Paul	FARTHING	Playboy 115%	McCoy 60	1260	
Allen	SULLY	Playboy	Saito 556 4/	1229	
Don	HOWIE	Bomber 85%	Saito 56 4/	1229	
Basil	HEALY	Red Ripper	Saito 56 4/	1097	
Vince	HAGERTY	Stardust Spl	Enya 53 4/	1018	
Peter	CUTLER	Turner Spl	Saito 56 /4	807	
Garry	WHITTEN	Playboy	Saito 62 4/	786	
Peter J.	SMITH	Playboy 112%	McCoy 60	744	
Rex	BROWN	Folly	Fox 500 2/	242	
Bruce	RAMSAY	Cabin Ruler	Elfin 2.49 d	L/O	
Anthony	VICARY	Playboy 105%	Saito 62 4/	L/O	
Brian	LAUGHTON	Playboy	TT 36 2/	L/O	

Standard Duration

Dave	BROWN	80% Airborne	OS 40H	1073
Peter	SCOTT	Stardust Spl	OS 40H	1009
Paul	FARTHING	Playboy	OS 40H	973
Peter J.	SMITH	Playboy	Magnum 36	942
Peter	Van Waterbeemd	85% Bomber	K&B 40	882
Dave	PATON	Playboy	OS 40H	848
Allen	SULLY	Playboy	Webra 40	143
Rex	BROWN	Lanzo RC1	K&B 40	L/O
Garry	WHITTEN	**Megow Ranger	ASP 32	610

** Processing Anomaly

2cc Duration

Paul	FARTHING	100% Pencil	Taipan Tyro	900	564
Anthony	VICARY	Dixielander	MVVS	900	440
Peter J.	SMITH	Apache	MVVS	878	
Peter	SCOTT	Eureka	2cc Jenner	771	
Basil	HEALY	Creep	Taipan Tyro	764	
Rex	BROWN	RC1	Taipan Tyro	741	
Peter	Van Waterbeemd	Eliminator	MVVS	701	
Bruce	RAMSAY	Dixielander	PAW 1.49	206	
Allen	SULLY	Wasp	OS10 2/	1 Att	

Champion of Champs

Peter Van De Waterbeemd 88
Dave Paton
Peter Scott
Rex Brown

Geoff Shaw Memorial Encouragement

(TopTexaco Score not in Flyoff)

Brad Turner

FOR OLD TIMER'S SAKE.

By Don Howie.

RAMBLINGS

It is interesting that Canowindra is from 17th to 22nd April (Easter), the Nats at West Wyalong 24th April to 1st May, then the SA/VIC Champs at Cohuna 4th and 5th May.

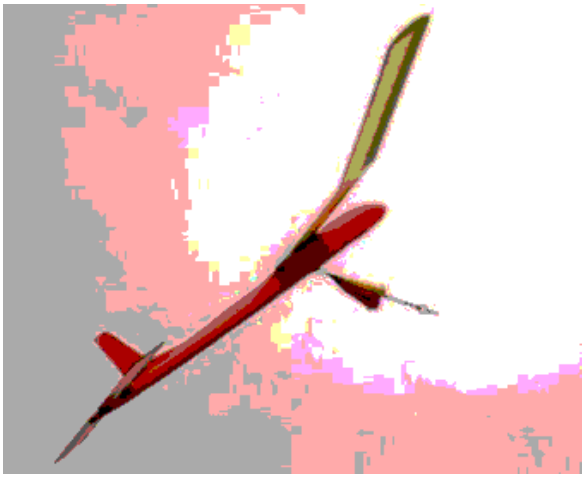
Is it possible that any Vic, SA or even NSW modeller will fly at all these events?

I know that I will not be going to the Nats, as I need to forward $100, just to fly in four events (Old Timer). If I am late in entering it goes to $150. Old Timer is one great event where you do not buy a plastic (carbon) fantastic as in R/C F.A.I. glider and F.A.A. free flight events.

2018 S.A./VIC Champs, Cohuna, Vic. Geoff Potter NSW "Little Diamond" ½A Electric Texaco.

Looking at Old Timer flying, most entries in Victoria is in electric 1/2A Texaco. This is an excellent low cost event, using any old 1/2A model. The only event where I see people building new models in South Australia is Vintage Glider, as it is fun to fly.

As an example, a few years ago I was the only person flying an enlarged Lulu Mk2 glider, designed by John Barker in the U.K. and published in November 1949 Aero Modeller. In the photo, a recent contest in 2018, we had four models flying. Peter Leaney (right) in the photo, won the event with his 100 inch Lulu (double size) remarking that it is so easy to fly and free of any vices.



Rex Brown's enlarged "Satyr" on tow-line placed 3rd in Vintage Glider at Willunga, November 2018.

Trenton Terror.

This design by Mickey D'Angeles, who lived in Trenton, New Jersey, U.S.A., was published in Flying Aces magazine, April, 1938. Span of the model is 74 inches.

It is the type of model that new, older modellers, should learn to fly with. I have seen trainers such as scale P51 Mustangs, fitted with flaps and slots on the wings, claimed to be trainers for new modellers, as they can fly slowly with a .61 cu.in. size glo engine. This may be correct, but they do not have any natural stability.

Willunga Vintage Modellers Field, 2018. Various enlarged Lulu Mk.2 models. A 1949 design from U.K. L to R: Ray Bobrige, Don Howie, Dave Markwell and Peter Leaney.

I have been using my Trenton Terror for over 20 years for testing spark ignition engines and writing about it in A.M.I. magazine (when it existed). One engine tested was as OS Type 9 sparkie, just under 10cc capacity, the engine sold to U.S. and Australian servicemen in 1946, when Shigeo Ogawa (Mr. O.S.) returned from Burma in September, 1946. Shigeo had made the engine parts in 1943, just before he was made to join the Japanese Army, It was one of the first 360 degree ported engines designed, way before the Arden 360 degree ported engines. The family house in Osaka had been destroyed during the war, but his small factory still was there, not being burnt down.

The "Trenton Terror" shown and flown by Anthony Vicary is very easy to fly with E.D. 3.46cc Hunter diesel. The deep fuselage and large wing make it easy to fly with a very good glide, so the model will have a very long life.

Canowindra 2017 SAM 1788 Champs. Anthony Vicary from Narrandera NSW with his Trenton Terror / ED 346 Hunter diesel. Solarfilm on wings and tail. Polyspan and paint on fuselage and fin.

I got tired of using spark engines and bought a 50amp speed controller and electric motor (unbranded), as it

came from and electric foam, ready to fly model. The total cost was $25 at our annual Sidewalk Sale day at Constellation M.F.C. field. I was told it would turn a 12x6 prop, so I fitted the motor to my old Trenton Terror, I had a prop adaptor for 540 motors, which is 1/8" shaft. This was drilled to 4mm for the new motor.

The easy way to fit the motor to the "Trenton Terror", so it can be returned to sparkies, was to make a plate of three laminations of 1/16" ply. Two wood screws into the bearers, and four countersunk screws to the motor has worked well. Only problem has been the prop drive that could not take the power, now replaced with a 4mm tapered drive and prop nut. Best prop has proved to be an 11x6 wood and a 3Sx2200mah lipo pack.

Mounting plate shown to convert "Trenton Terror" to electric power. 12x5 TopFlite wooden prop.

Frog Centurion.

This 60" span kit from 1948, designed by Charles Buffery for the new Frog 180 diesel (1.6cc) has never been popular in the U.K., not like the Junior 60 or Falcon by KeilKraft. It is much better looking than both of these and I decided I would fly one with a 1948 Frog 180 diesel.

Peter Lloyd sent me his re-drawn plan several years ago, the original plan came from the late Paul Straney. Jack Simmons in the Willunga Club still likes building models so I got him to build the "Centurion", he made it for electric, so it has been flown many times with rudder, elevator and motor control.

It needed the CofG slightly in front of the main spar to fly properly, as the model has a symmetrical tailplane, not a lifting one. With the Frog 180 radial mount diesel fitted. It needed 1½ ounces of lead in the front balsa cowl. The photos, taken at Constellation M.F.C., shows the model and transmitter, the white plastic bag contains rubber-bands for the wings.

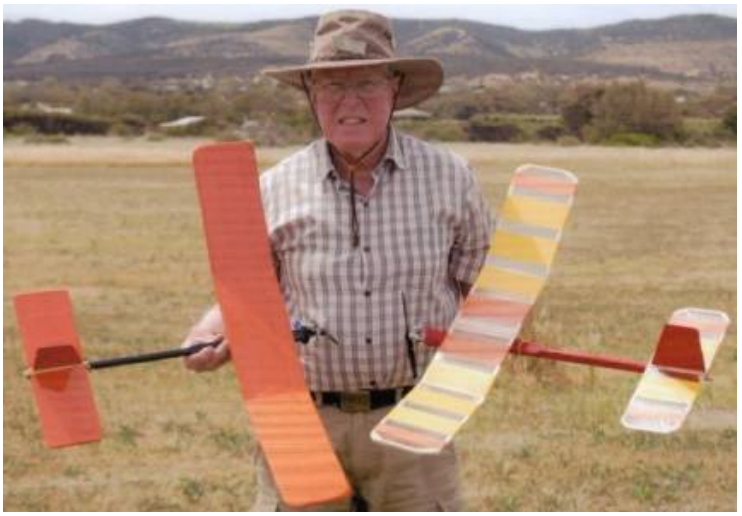
Frog 60" span "Centurion". 1948 Frog Power Kit with Frog 180 diesel at Constellation M.F.C.

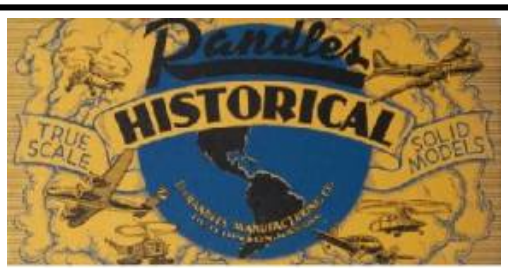
Maris Dislers took the photo as I released the model on the ground. It took off quickly and needed some right rudder, the model then heading for Maris. It got away quickly and it does fly very well, the engine running for several minutes on the built in tank on the engine.

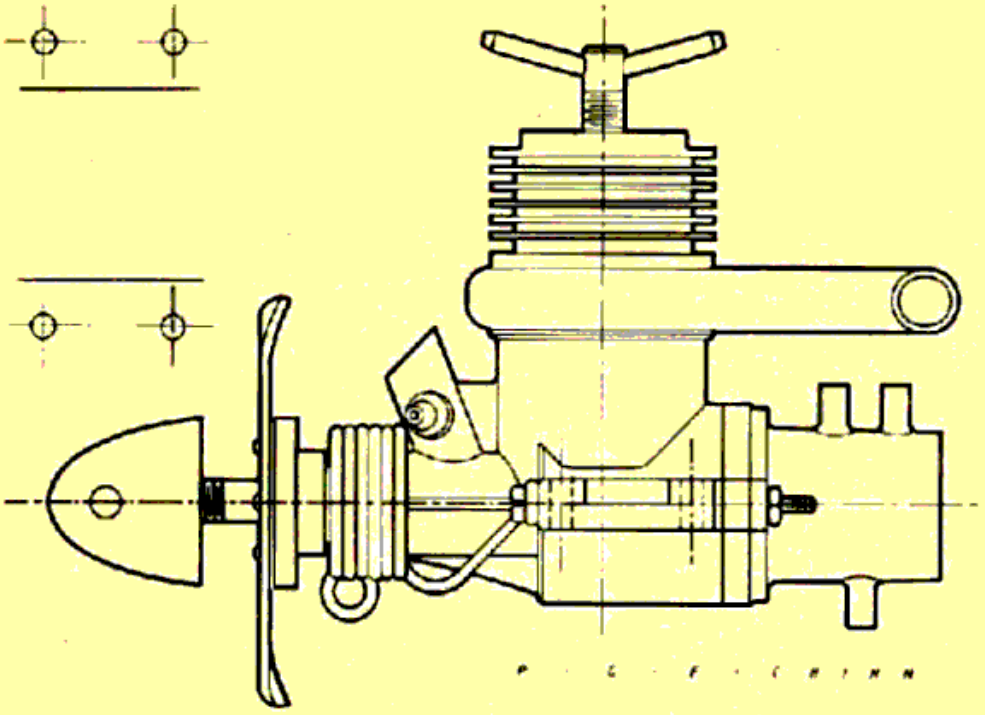
Last photo is flying free flight at Willunga, the "Presto" featured last article is a great flying model. The orange and black model was built by Bill Britcher and has an Anderson Spitzy .045 glo, whilst mine has a replica Arne Hende Elfin 50 diesel from 1952. Both models fly very well and would be food for Bowden type contests.

Left:
Don Howie with "Centurion" lifting off needs right rudder.

Right:
Two "Presto" F/F models at Willunga Vintage Modellers Field. Held by Don Howie.







ENGINE TEST

by Peter Chinn

D. C. SABRE

OVER the past few years, there has been a sharp decline in the number of diesels sold on the U.K. market, due, largely, to the vastly increased popularity of radio-control and the consequent trend towards the throttle-equipped glowplug engines more appropriate to this branch of the hobby. Nevertheless, there remains a steady demand, particularly among juniors, for low-priced diesels of up to 1.5 c.c. capacity suitable for beginner-type control-line and free-flight models. With the recent withdrawal from production of the M.E. and A.M. diesels, this will obviously focus greater attention on the remaining engines obtainable in this group.

Whereas the majority of glowplug engines sold in the U.K. are imported, the reverse is the case with diesels, and the bulk of these come from the Davies-Charlton company in the Isle of Man who, in addition to their own 'D-C Quickstart' range, also make the well-known 'Frog' engines for the Lines Bros. organisation. The present Quickstart line numbers four diesels (in watercooled marine as well as air-cooled versions) plus one glowplug motor, all

between ¼ c.c. and 1½ c.c. piston displacement. For our report this month, we have chosen the largest of these, the 1.49 c.c. *Sabre* model.

This engine has the distinction of being the lowest priced 1.5 c.c. diesel on the market and has also enjoyed one of the longest production runs of any British engine to date. It first appeared nearly 15 years ago as the *Allbon Sabre*, having been designed by Alan Allbon, whose Allbon Engineering Company Ltd. manufactured many fine small diesel motors in the early fifties.

The Sabre has changed very little over the years and is of very simple construction. The body of the motor is a pressure diecasting in LM.2 aluminium alloy and comprises the crankcase, lower cylinder housing and crankshaft bearing. It extends upwards to just above the level of the exhaust ports, where it is widened so that the flange on the otherwise plain cylinder liner drops down inside until arrested by an annular seating in the casting. The finned cylinder jacket, which has an external thread below its bottom fin, is loosely fitted over the cylinder and screws into the top of the crankcase so that its lower edge clamps the liner in place at the flange.

The crankshaft runs directly in the crankcase material and uses a plain, non-counterbalanced crank disc. The back end of the crankcase is sealed by a diecast backplate which is secured by nuts on to two long 6 BA screws passing through the beam mounting lugs. This backplate is very deep so that, despite the fact that it is held at only two points, it is sufficiently rigid to resist any tendency to distort and cause leakage.

Cylinder porting is via radial slits, with a very long exhaust period (approximately 170 degrees of crank angle) and very short transfer period (approx. 90 deg.). A flat topped piston is used and is coupled to the crankpin by a forged high duty aluminium alloy conrod. The piston is an unusually hefty affair, almost solid, in fact, with a skirt and crown approximately ⅛ in. thick. This rather disagrees with theory about keeping reciprocating parts as light as possible, but has the advantage of offering increased bearing area for the gudgeon-pin, improved crankcase depression and better heat conductivity with no risk of distortion. This latter point may be of some value in this particular design in view of the fact that heat transference to the cooling fins is bound to be

rather poor due to the cylinder jacket being in intimate contact with the cylinder only at the exhaust flange and via the compression screw.

All aircraft type Sabres produced during the past few years have been equipped with the D-C Quickstart starting device. This consists of a 17 swg wire coil spring surrounding the crankcase nose and anchored by the left hand crankcase screw. The free end of the spring is formed into a loop to engage a dural cam behind the prop.

The crankcase screws are also used to retain the standard fuel tank with which the engine is supplied. This is of a translucent plastic type and, giving about half-a-minute's running time, is adequate for free-flight work. Obviously, for control-line, a larger, separate tank is required.

A desirable yet inexpensive extra for the Sabre is the Quickstart silencer/manifold. This modest device consists of a U-shaped aluminium tube, suitably cut away at the centre, where it is wrapped around the upper part of the engine casting to cover the two exhaust outlets. It is secured with a 6 BA screw and nut and the two tailpipes thus formed are packed with steel wool to form absorption type silencers. If preferred, the unit can be utilized, instead, as a manifold to which extended tailpipes can be added.

This silencer was used in the course of our tests and its effect on power output is illustrated in the performance graph. The degree of power loss caused is quite modest and applies to the silencer in clean condition and not too densely packed. It is well worthwhile to occasionally remove old packing (in which oil will tend to congeal if the engine is put aside for a time) and to clean and lightly repack the outlets with fresh steel wool.

Typical prop rpm achieved with the Sabre when fitted with the silencer, included 6700 rpm on a 10x3½ Top-Flite wood prop, 7300 rpm on a 9x4 Keilkraft nylon, 7700 rpm on an 8x6 PAW Trucut wood, 9600 on an 8x4 Top-Flite nylon, 9700 on an 8x4 PAW Trucut wood, 9800 on a 7x5 PAW Trucut wood, 10,600 on a 7x4 Tornado nylon and 11,800 on a 7x3 PAW Trucut wood. Despite the Sabre's heavy piston and lack of counterbalancing, its vibration level on these props was not significantly greater than for the average 1.5 c.c. diesel.

The engine was easy to start both with and without the aid of the starter spring. It was helpful to prime the engine (directly into the exhaust port when the silencer was not used) for a first start from cold but choking the intake for one or two flicks were adequate for an immediate warm restart. Both controls were easy to adjust and non-critical. If the engine was underpropped (e.g. 7x3 or 7x4) there was a tendency, on our test engine, for the compression control to run back, and starting was also less pleasant. However, on the most useful prop sizes (e.g. 8x4, 8x5, 8x6, 9x4) handling and running qualities were good.

The Sabre is no record-breaker performance-wise but has adequate power for the type of models for which it is intended, is easy to handle, robustly constructed and very reasonably priced.

Power/Weight Ratio (as tested):
0.37 bhp/lb (with silencer)
0.46 bhp/lb (less silencer)

Specific Output (as tested):
59 bhp/litre (with silencer)
68 bhp/litre (less silencer)

SPECIFICATION

Type: Single-cylinder, air-cooled, reverse-flow scavenged two-stroke cycle, compression ignition. Crankshaft type rotary-valve induction. Plain bearings.
Bore: 0.525 in.
Stroke: 0.420 in.
Swept Volume: 0.0909 cu. in. = 1.489 c.c.
Stroke/Bore Ratio: 0.800 : 1
Checked Weights:
92 grammes – 3.24 oz. (bare engine).
106 grammes – 3.74 oz. (with starter assembly, fuel tank and silencer).

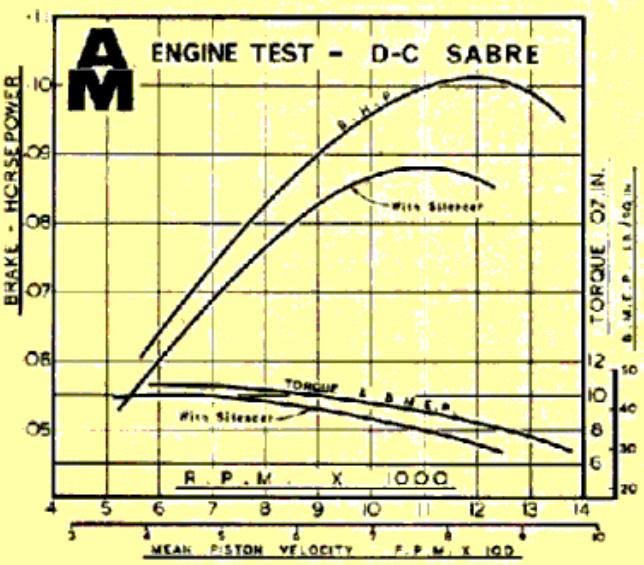
General Structural Data

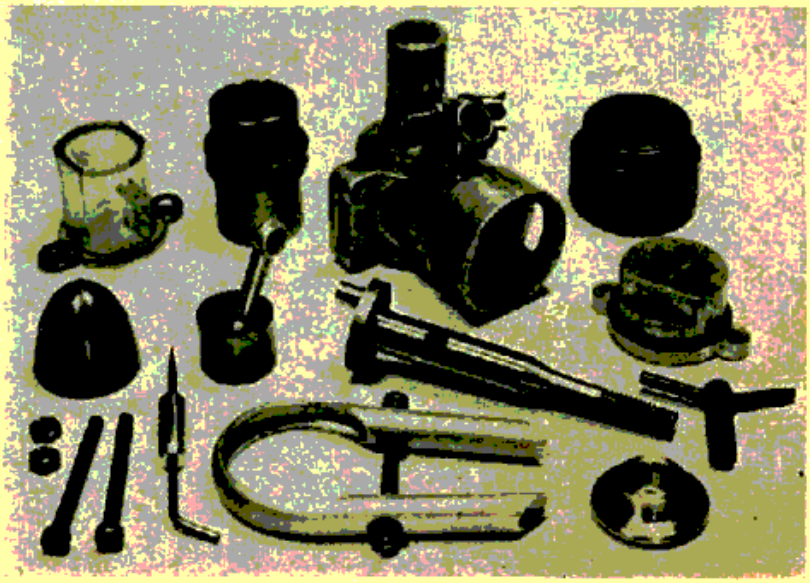
Pressure diecast LM.2 alloy *crankcase* and unbushed main bearing unit with detachable rear cover. Nickel-chromium steel *crankshaft* with disc web, 9/32 in. dia. journal, 5/32 in. dia. crankpin and 9/64 in. bore gas passage. Hardened steel *cylinder*, flanged at exhaust belt and located by annular seating in crankcase. Machined aluminium alloy finned *cooling jacket*, colour anodised red and screwed into crankcase to secure cylinder assembly. Lapped Meehanite *piston* with flat crown and ¼ in. dia. solid *gudgeon-pin*. Forged RR.56 alloy *connecting-rod*. Machined aluminium alloy *prop driver* fitted to taper on crankshaft. Machined aluminium alloy *spinner-nut*. 18 swg aluminium alloy *starter pawl*. 17 swg steel wire *starter spring*. Brass spraybar *needle-valve assembly*. Combined beam and two-point bulkhead mounting lugs. Detachable transparent *fuel tank*.

Optional extra
Absorption type silencer/manifold. (Weight: 5.3 grammes – 0.19 oz.)

TEST CONDITIONS

Running time prior to test: Approx. 2 hours.
Fuel used: 30 per cent ICI technical ether, 30 per cent Castrol 'R', 40 per cent kerosene, plus 2 per cent amyl-nitrate.
Air Temperature: 46 deg. F (8 deg. C)
Barometric Pressure: 29.90 in. Hg.
Silencer: Maker's 'D-C Quickstart' absorption type.





MK Sportster by Hoh Fang Chiun from Model Aircraft June 1956
A pleasing model for .5 – 1cc engines from a Chinese enthusiast.

Intrigued by the name of this model? Designer Hoh Fang Chiun explains it as follows: M.K =Middle Kingdom and the Chinese call China the Middle Kingdom or Middle Land. Designed for the popular 0.5 cc - 1 c.c. engines, it has a most realistic and stable flight and the large diameter wheels should provide safe take-offs and landings from any reasonable flying field. So if you are interested in precision events such as the Bowden Trophy, or just like a model that can get off the ground in a realistic manner, then this design can be recommended

Fuselage

Start by building the cabin frame. The frame sides should be built directly over the plan and the cabin uprights should be of hardwood. Now cement the frame sides to fuselage sides, which are of 1/16 in. sheet. After they are dry, join the two fuselage sides with F2 and F3. Note that the U/C must be fixed to F2 before joining the sides. Add the remaining spacers and cover top and bottom of fuselage with 1/16 in. sheet.

The fuselage bottom should be covered with the grain crossed. Add engine bearers and cement the bolts in place to suit engine. Add nose blocks and sand to shape. The fuel tank can be placed in this compartment. Leave the cabin uncovered at this stage.

Wing

Pin down the L.E., T.E. and lower spar over the plan. Add ribs, which are cut from 1/16 in. sheet, then cement the upper spar and the tip in place. The centre section of the wing is covered top and bottom with sheet and the dihedral is 2 3/4 in. measured at each wing tip.

Fin and Tailplane

The fin is made out from three pieces of 1/32 in. sheet cemented together with grain crossed. Cut the lightening hole and the trim-tab. Now cement the fin to the fuselage and be sure that there is a space for the tailplane. The tailplane has a flat plate section, so the construction is straightforward.

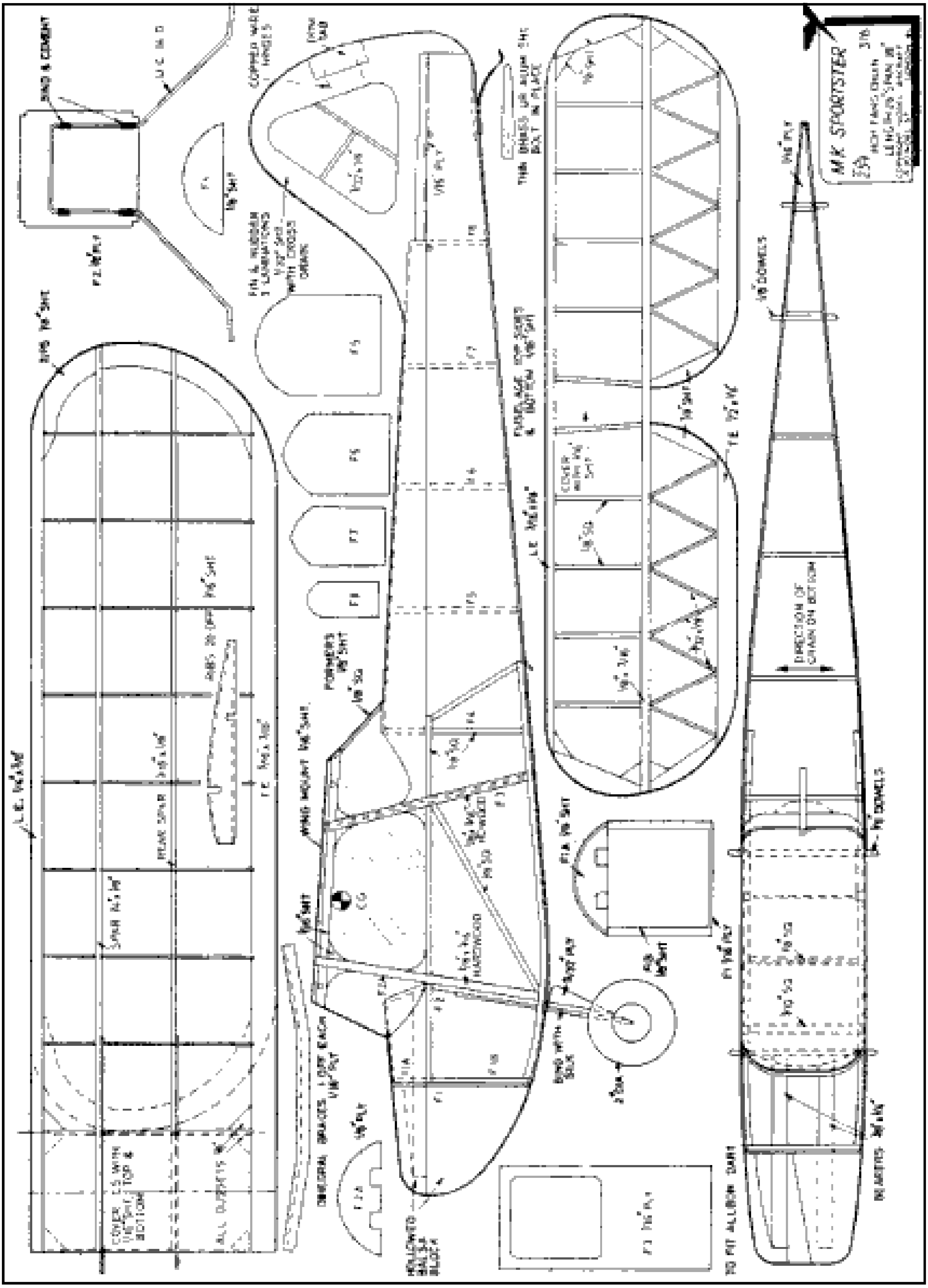
Use hard strips for L.E. and mainspar. The T.E. is shaped before building.

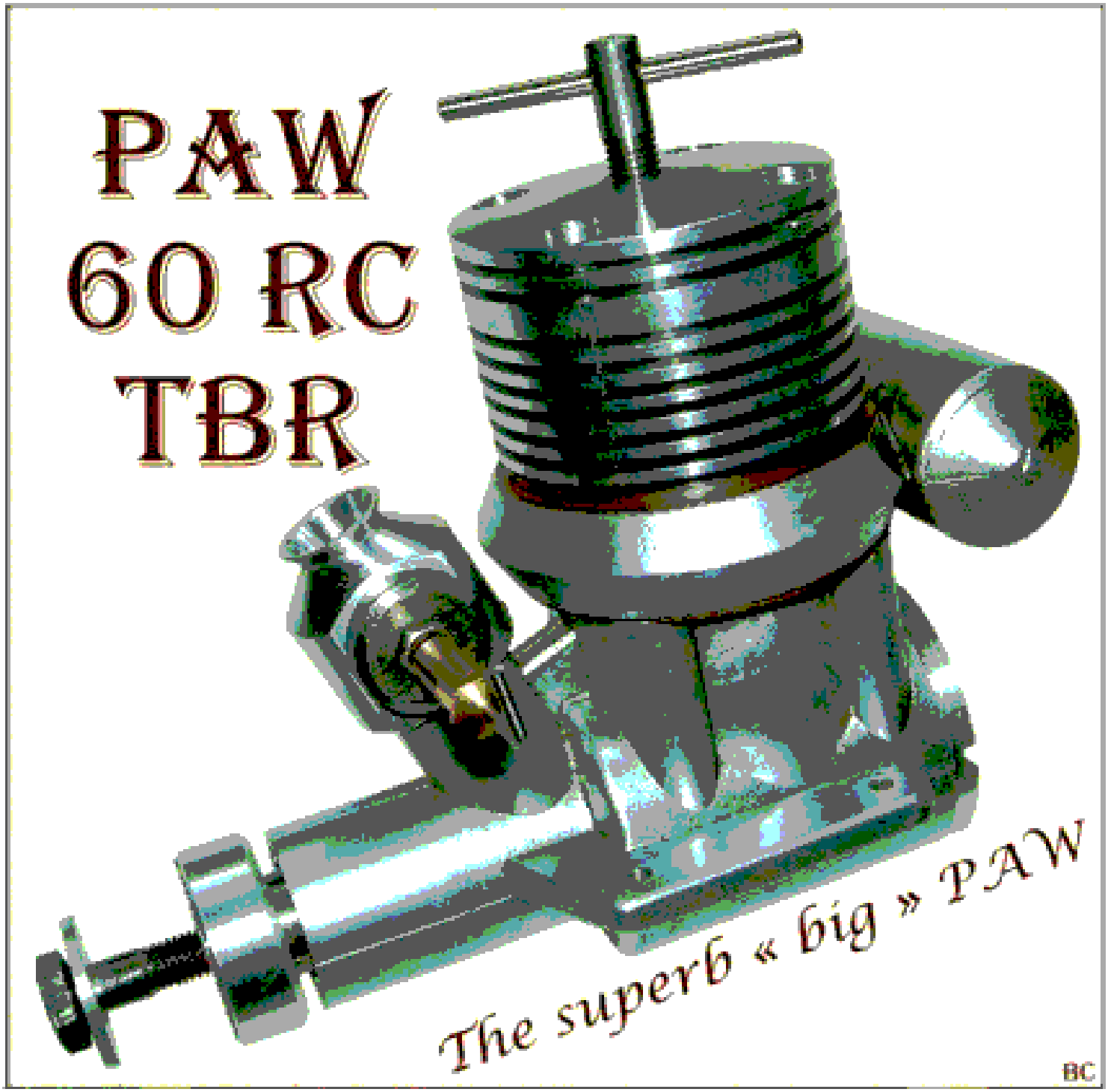
Finishing

The wings and the tailplane can be covered either with lightweight or heavyv weight Modelspan. I myself used lightweight Modelspan on my original model. Waterspray and give four coats of clear dope. The wings should have about 1.8 – 3/16in. washout at each tip. Cover the fin with heavyweight Modelspan, also four coats of clear dope. Before covering the fuselage with lightweight Modelspan, it is a good idea to give it a coat of thinned clear dope. Now cover the cabin with thin sheet celluloid. After covering, the original model was given two coats of sanding-sealer, followed by one coat of normal clear dope and two coats of per cent, thinned colour dope. The fuselage should be sanded smooth with fine grained sandpaper after each coat. The original model is finished in a blue and white colour scheme

Trimming and Flying

With the trim-tab at about 3/8in. to starboard, the model should have a smooth, flat glide when hand launched in still air. No alterations to tailplane incidence were necessary on my original model. Make the first power flight with a 7 in, X 4 in, prop. No alterations to engine thrust line were necessary on the original Dart-powered model. If a 0.8 c.c. or bigger engine is used, then some downthrust will be necessary. The original model, using a 6 in, X 4in. Tru-Flex airscrew, has left-hand power and right-hand glide.


MK SPORTSTER
DIRECTION OF GRAIN ON BOTTOM
HOLLOWED BALSA BLOCK
TO FIT ALLOW DART
CG



This month's engine photo might actually be of practical use to some readers.
I've been putting off building a KK Falcon for decades, due to (typical) indecision concerning the choice of an interesting engine.
A couple of months ago, this PAW 60 was offered on eBay, brand new. Being a diesel (and PAW) fan, I realised that the Falcon engine solution was staring me in the face...
I gave the engine 40 or 50 minutes of gentle running in (within a couple of hours of receiving it!), and I was very pleased with the result.
I had expected such a big diesel to be a bit « virile », but it's a real pussy cat, dead easy to operate and not vicious at all.
I'd recommend this engine (or similar PAW) to any diesel lover wanting to fly a big vintage RC plane.
Anyway, the engine's second (ever) running session is on video, here:
http://www.youtube.com/watch?v=6xl1HLZADAI

If you like diesels, have a look, it's a superb engine and a really nice surprise for me.
Now I just have to get building... Brian

From Eric Adams

Greetings from Canada! I thought your readers might be interested in a blast from the past that I picked up at an estate sale, as not many people I've spoken to have ever seen or even heard of one of these. It's a Dallaire Pee Wee Speedster, designed in 1939 by Joe Dallaire's older brother Frank, reportedly as a flying test bed for his Pee Wee engine. This particular model has one wing signed by Joe Dallaire himself.

I know most people reading this excellent newsletter will tear their hair out at this sacrilege, but I belong to an electric only club, so out of necessity the original FS-20 has been replaced by a brushless outrunner system. Noise considerations have greatly reduced the number of flying venues available near big cities in this country (as I'm sure they have in most places) so it's either electric flyer or garage hanger queen, take your pick. I choose to commit aviation over all else!

The power system consists of an E-Flite Power 10 outrunner spinning an APC 10 x 5 prop, 36 amp Castle Creations ESC and a 4,000 mah, 3 cell lipo for balance. I expected the overall weight to be much higher, so the Power 10 motor is complete overkill at 133 watts/lb. Oh well, that's why God invented throttles.

She's built at 150% over the original design for an overall length of 43" and a wingspan of 80". It's very lightly built with a flying weight of 2 lb. 13 oz., which includes that big, honking lipo (11.6 oz). This results in a wing loading of only 8.8 oz/sq.ft. and, with its feather weight wing structure, is used exclusively as a climb and glide machine. I'm afraid that any full throttle goonage will inevitably result in that jumping jack, wing clapping overhead thing that we all hate so much.

It flies very stably and sedately at less than ½ throttle. Watching it puttering by overhead with the sun shining through that lovely translucent covering, well, it just doesn't get any better than that.

"Yes, I keep a landline. Getting up 50 times a day to answer telemarketers keeps me in shape."

TWO LITTLE OLD LADIES.

Connie and Mildred, were sitting on a park bench outside the local town hall where a flower show was in progress.

Connie, leaned over and said, "Life is so boring. We never have any fun anymore. For $10 I'd take my clothes off and streak through that stupid, boring flower show!"

"You're on!" said Mildred, holding up a $10 bill.

So, Connie slowly fumbled her way out of her clothes.

She grabbed a dried flower from a nearby display and held it between her teeth.

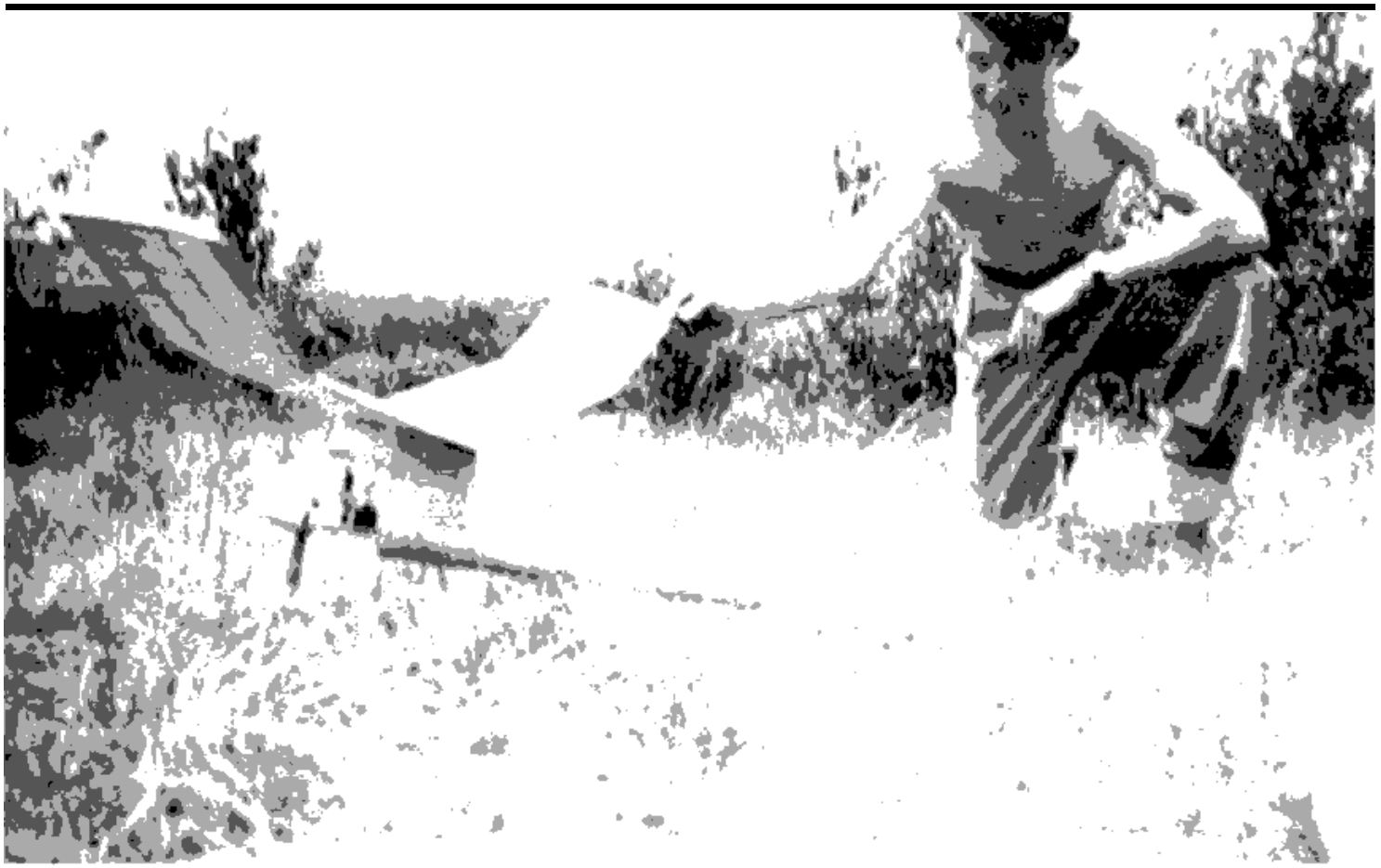
Then, completely naked, she streaked, as fast as an old lady could, through the front door of the flower show.

Waiting outside, her friend soon heard a huge commotion inside the hall, followed by loud applause and shrill whistling.

Finally, the smiling Connie came through the exit door surrounded by a cheering, clapping crowd.

"What happened"? Asked Mildred.

"I just won $1,000 as 1st prize for 'Best Dried Arrangement'!"



ray murray with power model

harold stevenson with power model '48 nats

fillon glider 1948 nats

bill evans power winner "hyphen" '48

====ENJOY YOUR DAY!====

CLINIC: An old geezer became very bored in retirement and decided to open a medical clinic. He put a sign up outside that said: "Dr. Geezer's clinic. Get your treatment for $500, if not cured, I'll pay you $1,000."

Doctor "Young," who was positive that this old geezer didn't know beans about medicine, thought this would be a great opportunity to get $1,000. So he went to Dr. Geezer's clinic.

Dr. Young: "Dr. Geezer, I have lost all taste in my mouth. Can you please help me ??"

Dr. Geezer: "Nurse, please bring medicine from box 22 and put 3 drops in Dr. Young's mouth."

Dr. Young: Aaagh !! -- "This is Gasoline!"

Dr. Geezer: "Congratulations! You've got your taste back. That will be $500.

Dr. Young gets annoyed and goes back after a couple of days figuring to recover his money.

Dr. Young: "I have lost my memory, I cannot remember anything."

Dr. Geezer: "Nurse, please bring medicine from box 22 and put 3 drops in the patient's mouth."

Dr. Young: "Oh no you don't, -- that is Gasoline!"

Dr. Geezer: "Congratulations! You've got your memory back . That will be $500."

Dr. Young (after having lost $1000) leaves angrily and comes back after several more days.

Dr. Young: "My eyesight has become weak --- I can hardly see anything!!!!"

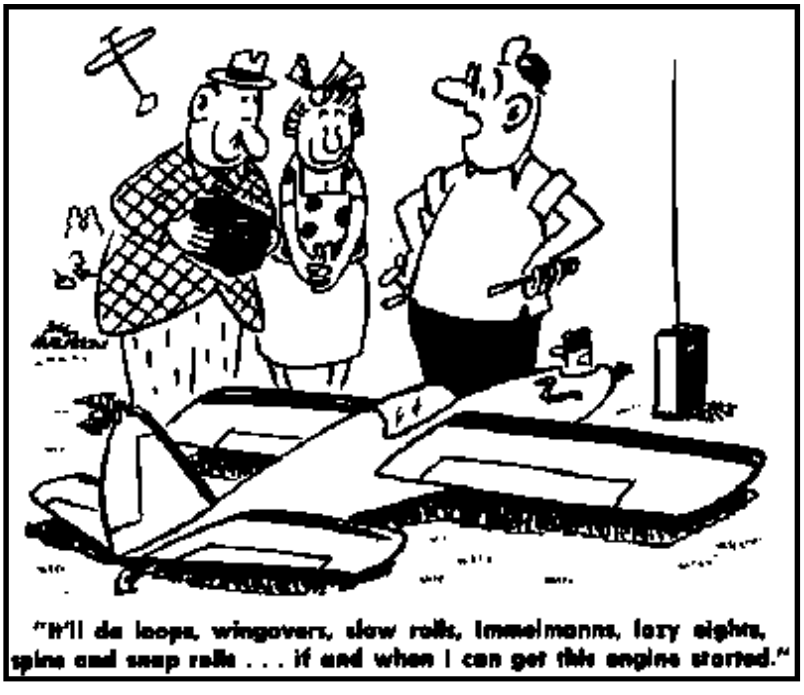
Dr. Geezer: "Well, I don't have any medicine for that so, here's your $1000 back." (giving him a $10 bill)

Dr. Young: "But this is only $10!"

Dr. Geezer: "Congratulations! You got your eyesight back! That will be $500."

Moral of story -- Just because you're "Young" doesn't mean that you can outsmart an "old Geezer"

Remember: Don't make old people mad. We don't like being old in the first place, so it doesn't take much to piss us off.



"It'll do loops, wingovers, slow rolls, Immelmanns, lazy eights, spins and snap rolls . . . if and when I can get this engine started."

Sinbad Glider by Bob Galler (USA)

Starting them Young in Alaska - from Van Wilson.

Fillons Champion Glider

TRIVIA

The First Spy Satellite Images Were Retrieved By?

Encrypted Radio Waves	Airplanes
Rockets	Submarines

Answer ⟶

Answer: Airplanes

You've got a spy camera in space, orbiting the globe, and it uses honest-to-goodness film. You need to get that film back to Earth without damaging it, so it can be developed by your intelligence agencies and examined. What do you do? If it's the 1960s, you're the United States Air Force, and you're flush with cash, Cold War bravado, and skilled pilots, then you snatch it right out of the air as it re-enters the Earth's atmosphere.

We're not being remotely hyperbolic with that statement either. The earliest U.S. spy satellites would jettison their film payloads, secured in very well insulated tiny re-entry vehicles called "film buckets". The film buckets would deploy a parachute to drift lazily through the air for a few moments before being expertly intercepted by U.S. Air Force pilots soaring along dragging a tail hook capture device behind their planes.

In the rare instances the Air Force failed to retrieve the film buckets, the Navy was called in to pluck them out of the ocean using radio transmitters to locate them. As a final safeguard, should the Navy fail in retrieving them, a salt plug in the bottom of the device would dissolve when exposed to water for two days and sink the film to the bottom of the ocean.

BC

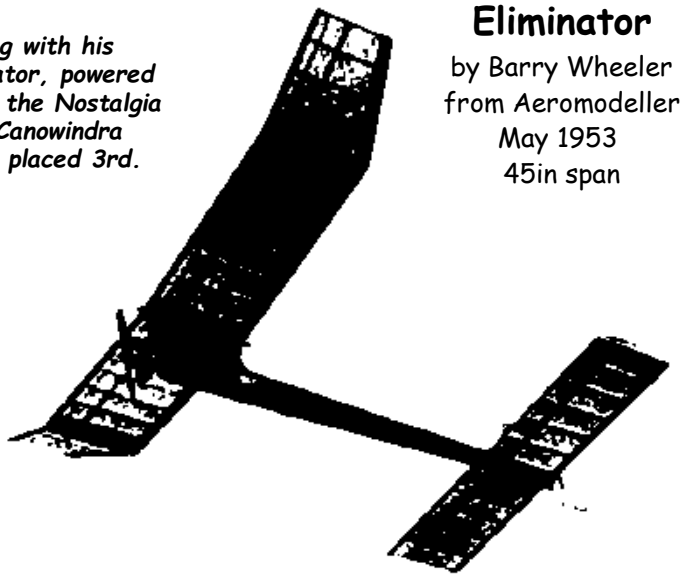
Engine enthusiasts will be aware of this little Airstar diesel, made in Luton, in 1947, largely by taking over the recently discontinued French Airplan production (the main elements of the English engine have metric threads!).
However, probably not many people will have seen one running, which is all the excuse I need to play with an interesting old engine...
So, for those interested, here it is:

http://www.youtube.com/watch?v=3p__kUa1SKE

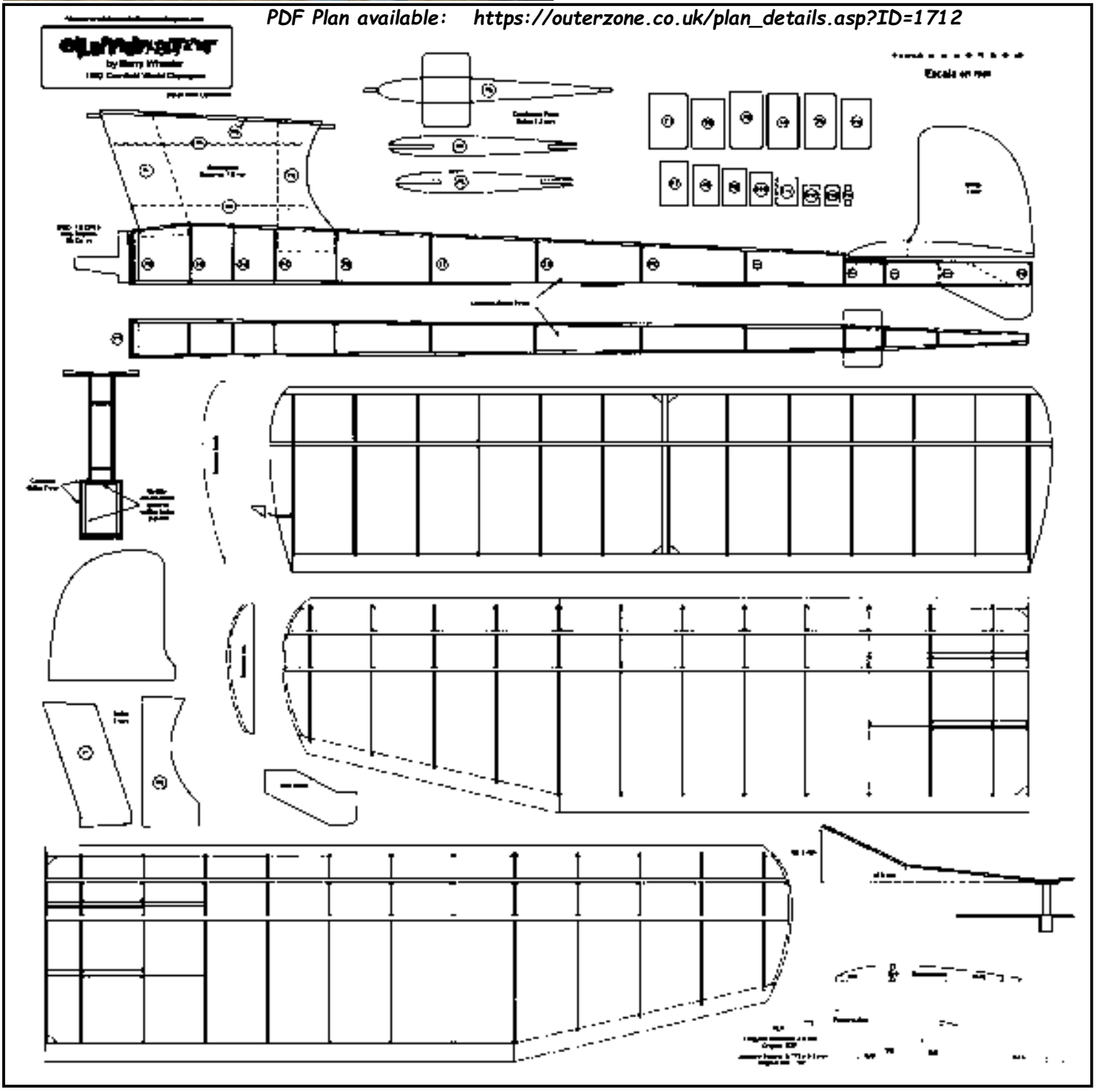
Grant Manwaring with his enlarged Eliminator, powered by OS40H, for the Nostalgia Event at 2019 Canowindra Champs. Grant placed 3rd.

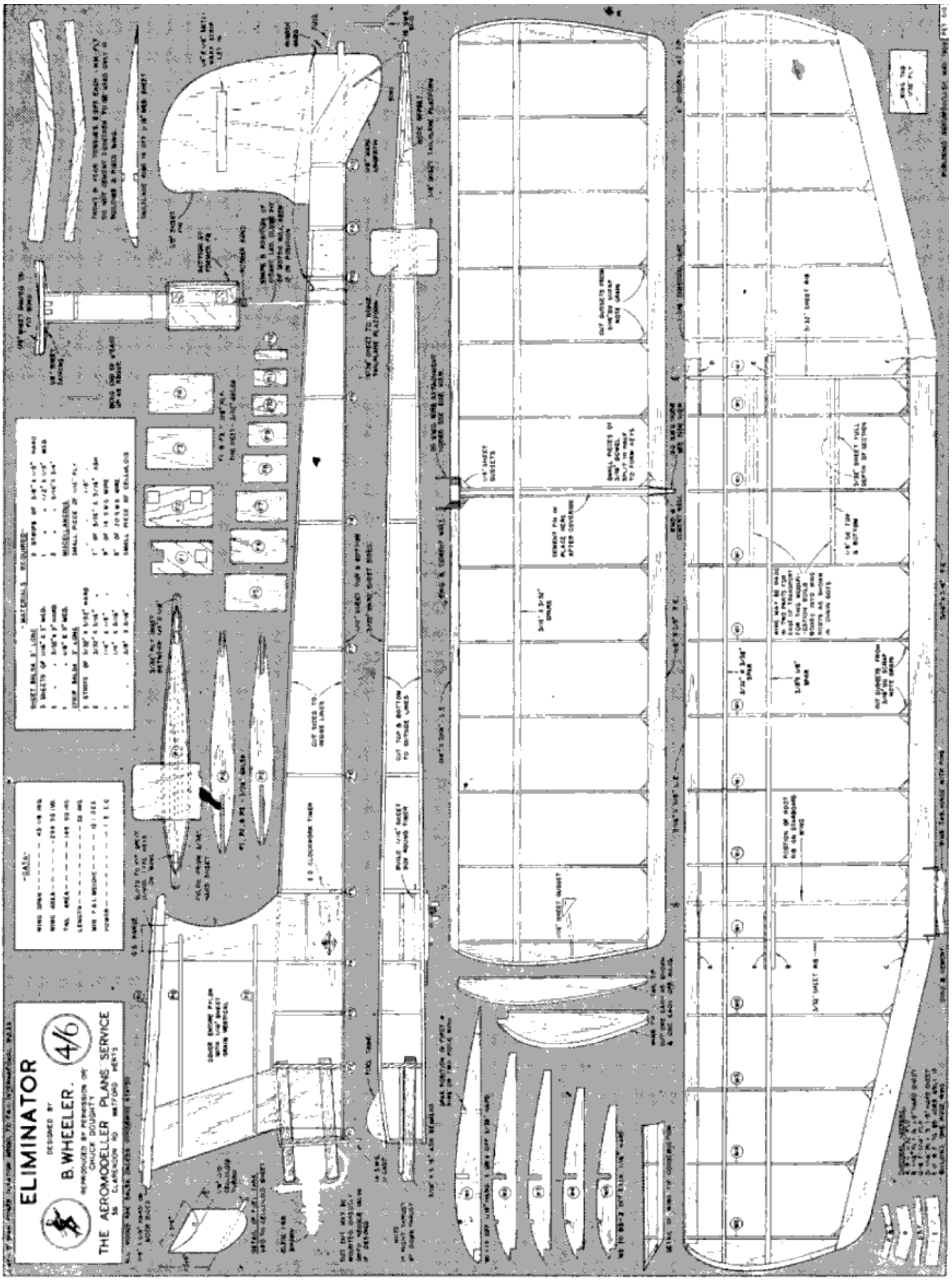
Eliminator

by Barry Wheeler
from Aeromodeller
May 1953
45in span



PDF Plan available: https://outerzone.co.uk/plan_details.asp?ID=1712





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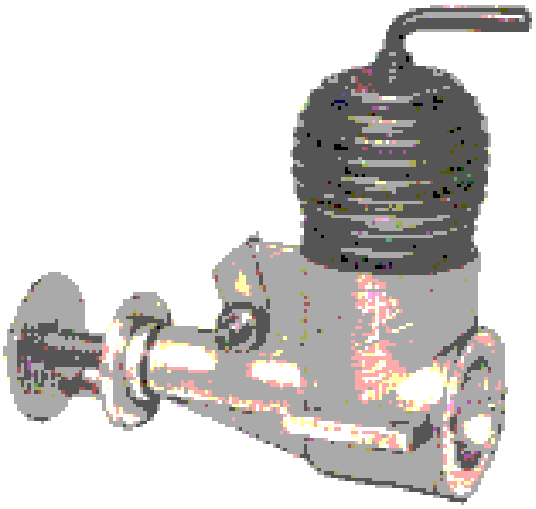
The Allbon Javelin from Model Aircraft November 1950

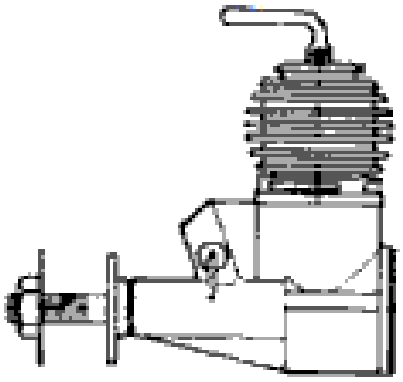


Judging by the number of them seen about, the Allbon "Javelin" must be fast becoming one of the most popular of small diesels. Moderate price, easy starting, light weight and lively performance, the reasons for this popularity are not difficult to seek.

This 1.49 cc engine first appeared early this year as a simple compression-ignition adaption of the Allbon "Arrow" glow-plug engine, which was introduced towards the close of the 1949 season. A new "Javelin" was received just before its release to the model trade and the impression then gained, from tests carried out on this unit, was that the design made a much better diesel than glow-plug engine, an opinion subsequently strengthened by observation of "Arrow" performance by comparison with the "Javelin."

This particular unit which, following approximately four hours running, is now the subject of this month's test, has been used during this season in a small CL speed model with which speeds of up to 75 m.p.h. have so far been recorded and was also tried out in one of Bill Dean's Skystreak-26 designs and an entirely satisfactory performance obtained. Latest application is a 260 sq. in. high-thrust-line power-duration design which is expected to weigh 9 - 10 ounces with the "Javelin" installed. The "Javelin" conforms to the currently popular annular port layout with shaft type rotary valve induction. It has a very short stroke-S/B ratio 0.8-and is for beam mount installation. Recent improvements are seen in the additional crankcase webs, to offer greater resistance to damage in crashes with side mounted installations, and in the new serrated driving disc, which is especially useful to avoid excessive tightening with flexible airscrews.

A less obvious modification to recent models is the amended port timing which may be responsible for improved performance. The engine is extremely compact and, at a little over 2 1/4oz., is exceedingly light for a 1.49 c.c. unit. It is obviously quite suitable for all types of small models- CL speed or aerobatics, power-duration or for scale or semi-scale "sport " models-such is its power and flexibility under a wide range of loads.



Specification

Type : Single cylinder, air-cooled, two-cycle. compression-ignition. Rotary valve induction through hollow crankshaft. Annular exhaust and transfer porting. Conical piston crown Swept volume : 1.49 C.C. (0.0909 Cu. in.) Bore : 0.525 in. Stroke: 0.420 in. Compression ratio: variable. Stroke bore ratio: 0.8 : 1.

Weight : 2.3 OZ.

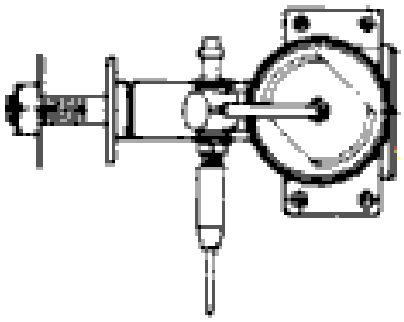
General structural data : Aluminium pressure die-cast crankcase and main bearing housing with detachable rear cover. Meehanite cylinder-liner threaded to crankcase with screwed on duralumin finned head barrel carrying compression adjuster. Meehanite contra-piston and piston with duralumin gudgeon-pin yoke. Yoke secured to piston with countersunk screw through piston crown. Un-bushed Hiduminium RR.56 forged connecting-rod. Alloy steel crankshaft ground and polished and running in crankcase material. Spray-bar type needle-valve assembly. Beam type mounting lugs.

Test Engine Data Total time logged: Approx. 4 hours. Fuel used : "Record" Racing Diesel Blend.

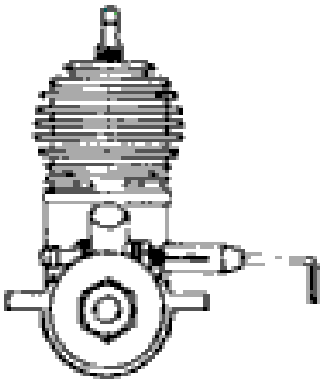
Performance

When new, the test "Javelin" exhibited a rather excessively severe tendency to lose power, after starting from cold, as the engine warmed up, and a full two hours' running-in was required before this tendency was appreciably reduced. However, checks on two other, more recent, examples, have not shown this to be a peculiarity common to all "Javelins," although an hour's running at moderate revs, is, nevertheless, recommended before high revolutions are allowed. Starting the "Javelin" is exceedingly easy. On suitable free-flight or stunt propellers, two choked flicks are the only preliminaries to setting the engine running from cold, provided that compression and needle adjustments are correct, of course, and these are not at all critical

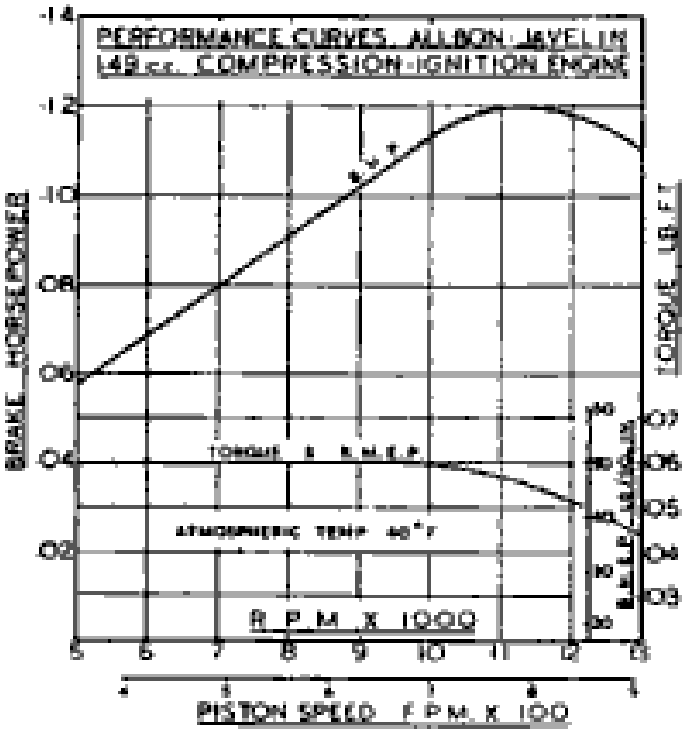
if a good tolerant competition fuel is used. Priming through the exhaust ports is not necessary with the "Javelin." If a speed propeller of less than 6 ½ x 7 in. diameter is used, starting is naturally, somewhat more difficult, but this is to be expected and is always the case with model engines, and particularly so with compression-ignition types.



As is inevitable with small shaft type rotary-valve motors, the needle adjustment is rather close to the propeller arc, but since the "Javelin" will start and run on the same settings quite easily once the correct adjustments have been mastered, there is really little need to touch the needle-valve while the engine is running. The usual procedure, when using modern nitrated fuels, is, of course, followed with the "Javelin "and the compression lever slackened off as the engine attains its normal operating temperature.



On test, the engine was run at various speeds ranging from 3,500 to 14,000 r.p.m. Below 5,000 r.p.m., torque dropped almost imperceptibly, a practically constant figure being maintained to nearly 10,000 r.p.m. Since the actual torque developed is fairly good. this results in a useful and smooth output at quite moderate speeds such as might be used with a free-flight scale model. A virtually straight climb to the b.h.p. curve was thus obtained between 5,000 and 10,000 r.p.m., levelling out at 11,000-11,500 r.p.m. where an output of approximately 0.12 b.h.p. was registered. This needless to say, is a very good performance indeed and is about 15 per cent. up on that obtained on an earlier test using a slightly less powerful fuel. Beyond the peak, the power falls off at an increasing rate as revs. are pushed up, but even at 14,000 r.p.m., the engine shows no sign of stress and due to the very short stroke, the piston speed, at these revolutions.is still below 1,000 r.p.m. For Class " I " speed models, it is probable that running the engine slightly above its peak may give best results. This is due to the fact that, for speeds in the 70s, an abnormally high pitch diameter ratio would be required if revs. are pegged at around the11,000 r.p.m. mark for maximum power. It is thought that 12-13,000 r.p.m. in the air is probably the best speed at which to aim. The test engine has actually been run at about 14,000 r.p.m. in the air (using a 5 1 2.in. propeller with weighted blades and a speed of 75 m.p.h. obtained), but this is probably too high and an improvement might result from using a slightly larger propeller at 1,000 less r.p.m.

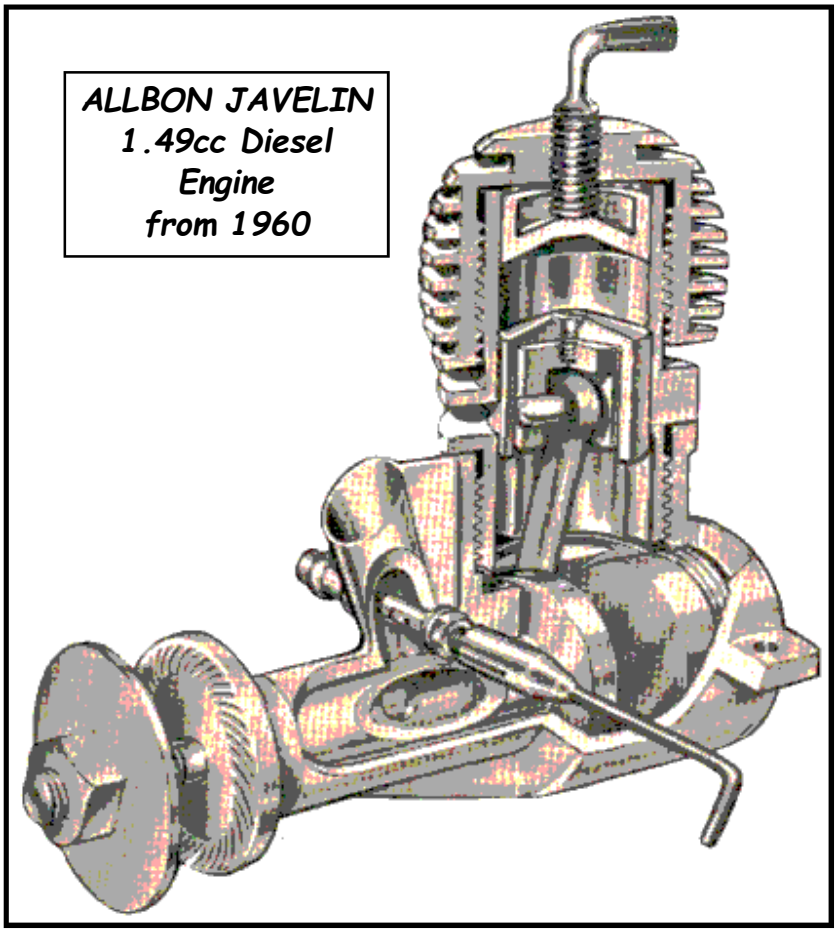


For power duration models, the "Javelin should also be allowed to rev, fairly fast for maximum climb. The engine will do between 9,000 and 10,000 r.p.m. with a good 8 x 4 propeller depending on blade area and shape. For precision type free-flight, a 9 x 5 will generally be found suitable, while for aerobatic work 7 to 8 in. diameter by 6 in. pitch will suit most small stunt models.

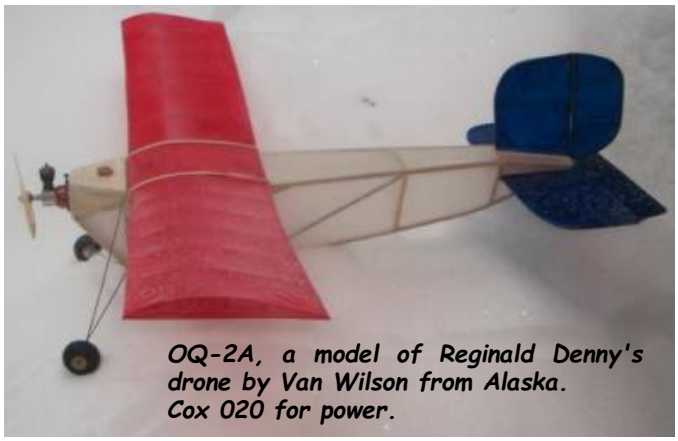
Power/Weight Ratio : 0.83 b.h.p. lb.

Power/Displacement Ratio : 80.5 b.h.p. litre.

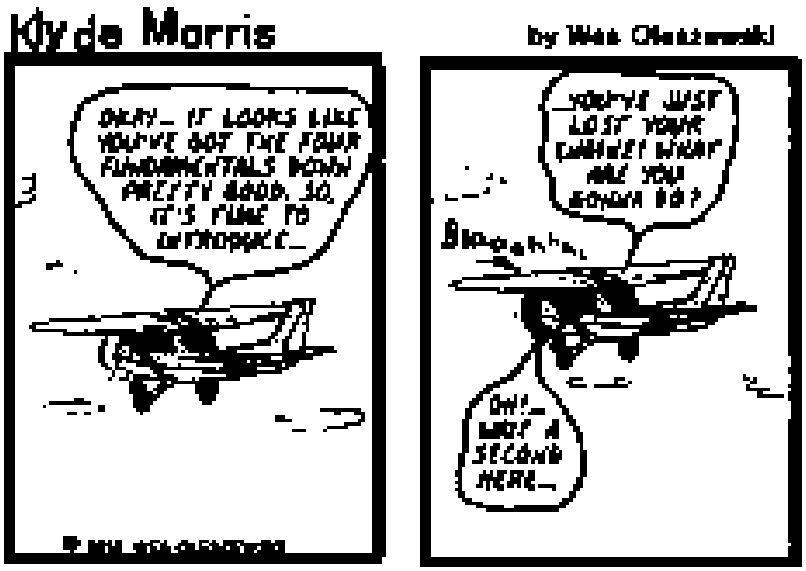
ALLBON JAVELIN
1.49cc Diesel
Engine
from 1960

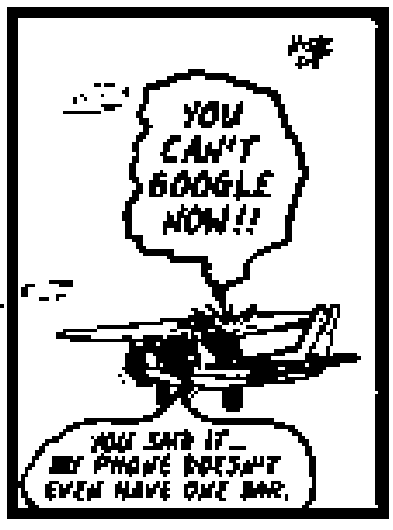


Don Southwell with his Standard Duration winning Airborne, flown by Dave Brown, at Canowindra 2019 Champs.



OQ-2A, a model of Reginald Denny's drone by Van Wilson from Alaska. Cox 020 for power.





A VETERAN'S STORY: Battle of the Heavyweights

in A veteran's Story / Articles — by WarbirdsNews — July 21, 2017 By Pete Mecca

Major Thomas B. McGuire Jr. (left) Major Richard I. Bong (Right) in 1944. Bong and McGuire were the top two scoring U.S. aces in World War II with 38 and 40 victories, respectively.

Analogous to Mohammad Ali and Joe Frazier, Richard Ira "Dick" Bong and Thomas Buchanan McGuire were the heavyweight fighter jocks of World War II. Unlike Ali and Frazier, the two fighter aces were heavyweights due to their skills and kills behind the stick of the P-38 Lightning, not due to their physical stature or strength. Likewise, Bong and McGuire did not fight each other, they fought against the Japanese. Yet their competition for America's "Top Gun" became front page news, just like Ali and Frazier's "Thrilla in Manila" in 1975.

Bong and McGuire did not wage their war in the confines of Madison Square Garden; their ring was the vastness of the Pacific Ocean. Both did, however, have an identical knockout punch: The legendary twin boom fighter, the P-38 Lightning. Designed by Lockheed's aeronautical innovator, Kelly Johnson, the Lightning could deliver a sucker punch or hit below the belt with four nose-mounted .50 calibre machine guns and one 20mm cannon. Adversaries who faced the P-38 dubbed the aircraft, "The Forked-Tailed Devil."

She was fast as a devil and quick as lightning, reaching airspeeds at over 400 mph. A bit temperamental, she was nevertheless tough and proved her grit over Dobodura, New Guinea on Dec 27, 1942. Lightnings of the 39th Fighter Squadron tangled with over 60 Japanese fighters. Eleven of the enemy went down while only one P-38 was damaged enough to be scrapped after crash-landing. Then on March 1, 1943, during the Battle of the Bismarck Sea, P-38s bushwhacked eight Japanese troop ships with an escort of eight destroyers and 30 Zeroes utilized for air cover. All eight troop ships and a destroyer were sunk, along with the destruction of 15 to 20 of the Zeroes. Only two Lightnings were lost.

With an aggressive flyboy behind the controls, the Lightning outfought and outflew anything the Japanese could put in the air. Two of those flyboys, as different as Ali and Frazier, clambered into the cockpits of one P-38 named "Marge," the other "Pudgy," and flew into aviation history as America's top scoring and second highest scoring Aces of all time. And this is their story.

"The duty of a fighter pilot is to patrol his area of sky and shoot down any enemy fighters in that area. Anything else is rubbish." Baron Manfred Von Richthofen – The Red Baron

Richard Ira "Dick" Bong was born into the farming community of Poplar, Wis., on Sept. 24, 1920. A multi-talented young man, Bong helped farm; played hockey, baseball and basketball along with clarinet in the school band; fished, and was known as a crack shot with a hunting rifle.

As with most boys of the Greatest Generation, Bong was fascinated by those marvellous flying machines and became a fervent model builder. In 1938, Bong attended Superior State Teachers College and enrolled in the Civilian Pilot

training agenda. He even took private flying lessons before enlisting in the Army Air Corps in 1941.


Major Richard I. Bong

In the Army, his flight training began at California's Rakin Aeronautical Academy followed by basic training at Gardner Field, Calif. Transferred to Luke Field near Phoenix, Ariz., he learned fighter tactics flying the old reliable A-6 trainer. A future U.S. senator and Presidential candidate from Arizona, Capt. Barry Goldwater, was one of Bong's instructors. Another flight instructor said of Bong, "He is the finest natural pilot I have ever seen."

After earning his pilot's wings in January of '41, Bong schooled gunnery for a few months before reporting to Hamilton Field near San Francisco to master the hottest fighter of the time, the twin-engine P-38. His skill behind the controls caught the attention of Gen. George Kenney, the future commander of the 5th Air Force.

Fighter pilots have a reputation as happy-go-lucky, hotshot devil-may-care aviators with the aggressiveness to match the military's demand for crème de la crème aviators to fly the expensive airborne weapons platforms. Dick Bong was no exception. On June 12, 1942, he "buzzed" the residence of a recently married pilot, flew down Market Street at extremely low altitude, blew freshly laundered clothes off a woman's clothes line, and along with three other hotshots "looped" the Golden Gate Bridge.


Maj. Thomas B. McGuire Jr. with Richard I. Bong (Majs. Bong and McGuire were the top two scoring U.S. aces in World War II with 40 and 38 victories, respectively; taken Nov. 15, 1944 in the Philippines). (U.S. Air Force photo)

Gen. Kenney was not a happy camper. He ordered his hotshot pilot to the woman's house to assist her with laundry plus complete menial chores for a day. Kenney told Bong, "I want this woman to think we are good for something else other than annoying people!". Gen. Kenney added, "If you didn't want to fly down Market Street I wouldn't have you in my air force, but you are not to do it again and I mean what I say."

Bong was grounded while the rest of his group left for England. Outcast temporarily, he was transferred to Hamilton Field for eventual dispatch to the PTO (Pacific Theatre of Operations). Bong was assigned to the Flying Knights of the 9th Fighter Squadron, 49th Fighter Group located at Darwin, Australia. There he began his reign of terror against aviators of the Rising Sun. On Dec. 27, 1942, Bong scored his first of many kills when he downed two enemy aircraft during the Battle of Buna-Gona.

Bong's counterpart, Thomas Buchanan McGuire, was born two months before Bong in Ridgewood, N.J. Unlike the family oriented Bong clan of nine siblings, McGuire's parents divorced before his 10th birthday and he and his mother relocated to Sebring, Fla. After high school, McGuire became a Georgia Tech Yellow Jacket but quit during his junior year to join the Army Air Corps, like Bong, in 1941.

McGuire trained in Corsicana, Texas, earned his wings at Randolph Field in Texas, but was not the flashiest of pilots. He was matured and blessed with leadership abilities, yet ended up in the Aleutian Islands of Alaska flying combat patrols in a P-39 Airacobra, a relatively successful aircraft. Bored with icy Alaska and the lack of opportunity to engage in combat, McGuire requested then received a transfer to the "real" aerial war.

In February of 1943, McGuire mastered the P-38 at the Orange County Airport in California before receiving orders for 49th Fighter Group. Bong had at least six kills before the two aviators met for the first time at Schwimmer Field near Port Moresby, New Guinea. These two heavyweight fighter pilots took to the air for the most intense "Top Gun" competition of the entire war.

Bong's P-38 was named Marge, to honour his stylish and beautiful wife. McGuire, also married to a sleek eye-catcher name Marilyn, named his P-38 after his wife's offbeat nickname, Pudgy.

Bong racked up kills in rapid succession. By August of 1943 his confirmed score was 16, including four in one day while flying escort over Lae on July 26th. Bong was referred to as a fighter-magnet, drawing the attention of enemy fighters as if destined for fame. McGuire, on the other hand, "damaged" five enemy aircraft on March 18, 1943. He claimed one enemy plane as a "probable," and lost a "confirmed kill" to another pilot by the flip of a coin. Later, McGuire received credit for three


Official photo of Thomas B. McGuire Jr. as an Aviation Cadet. (U.S. Air Force photo)

confirmed kills in one engagement. Three days later he claimed two more, making him an "Ace" after only two missions.

Dick Bong was like Mohammad Ali, "floating like a butterfly, stinging like a bee" against his opponents. He would duck for cover if outgunned or conditions were not favourable for engagements, much like Ali's tactic of "rope a dope." Bong calculated a fight before engaging, sought positive odds, and if promising quickly moved in for the kill. His marksmanship, by his own confession, was not reliable. Therefore, he moved in close for the knockout, several times flying through the flaming debris of a downed enemy aircraft. In one encounter Bong collided with the fiery wreckage. His cleverness, confirmed kills, and opportunist tactics gave him unrestrained confidence in combat.

Richard Bong, the World War II fighter ace from Poplar, Wisconsin, was a captain when this photo was taken next to his P-38 fighter in the South Pacific in 1944. At the time, he had 25 Japanese flags on the side of his plane to show his score od downed enemy aircraft. Bong went on to down 40 enemy aircraft.

Heavyweight McGuire was more like Joe Frazier; solid, highly effective due to a dedication to recognized rules and an experienced study of his opponents, but perfectly willing and able to slug it out when offered an opportunity. Gen. Kenney recognized McGuire's leadership abilities and assigned him to lead the 431st Squadron, a decision that may have kept McGuire from becoming America's "Top Gun" due to all the extra responsibilities heaped on McGuire.

Bong, much like Ali, started tearing down barriers and racking up the victories. He broke Eddie Rickenbacker's WWI record of 26 confirmed kills on April 12, 1944. Rickenbacker sent Bong a case of scotch. Bong's boss, Gen. Kenney, sent Bong a case of champagne. Gen. "Hap" Arnold, concerned the incoming booze would be bad publicity for the Air Corps plus aware that Bong was a spin-and-span sort of aviator and pretty much a teetotaller, sent the famous pilot two cases of Coca-Cola. Requests poured in from other squadrons and air groups volunteering to assume ownership of the surplus liquor.

McGuire, much like Frazier, stuck to what he did best, fighting, although the pressures of leadership and intermittent illnesses kept him out of action on occasion. He narrowly escaped death on Oct 17, 1943. Over Oro Bay, New Guinea, McGuire spotted seven Japanese Zeroes ganging up on a lone P-38. He didn't hesitate and dove on the enemy, shooting down three before the remaining four Zeroes jumped on him. With shot-up controls and severe damage to his P-38, McGuire had to hit the silk at 12,000 feet. His parachute harness became entangled in the cockpit; McGuire fell 11,000 feet before eventually freeing the harness. His wrist suffered a wound during combat; the short fall broke several ribs and caused other injuries … McGuire spent six weeks in a hospital.

In the meantime, Bong's incredible success as a fighter pilot made him a national hero. He was sent home a couple of times for war bond and publicity tours, but Bong sought combat. He begged to be returned to his unit in New Guinea, won the argument, and took to the air again in May of 1944 as an instructor. Thing is, Bong was never told where to instruct and elected to train new replacements on live targets. Flying out of Tacloban, Leyte, during the Philippine Campaign, Bong claimed his 40th victory by December, an accomplishment earning him a Medal of Honour presented personally by Gen. Douglas MacArthur. Bong's war was over. Gen. Kenney wanted his hero home, safe, and sent the Ace of Aces packing in January of 1945.

Major Richard Ira Bong being awarded the Congressional Medal of Honour by General Douglas MacArthur in the Philippines on 12 Dec 1944.

McGuire, however, was well on his way to breaking Bong's record and taking "Top Gun" honours. In two days, December 25th and 26th of 1944, he shot down seven enemy planes, which pushed his confirmed kills to 38. The same month Bong returned home, Thomas McGuire took to the skies on Jan. 7, 1945, leading four P-38 Lightnings on a mission over Negros Island in the central Philippines.

Near the Japanese airfield of Manapla, the P-38s spotted a Japanese Ki-43 Oscar fighter, all by his lonesome. Incredibly, the lone enemy pilot immediately engaged the Lightnings. At the controls of the Oscar was Warrant Officer Akiar Sugimoto, an experienced aviator and famed instructor with over 3,000 hours in the Oscar fighter. In the fog of air combat, Sugimoto ended up on the tail of McGuire's wingman, Capt. Edwin Weaver. McGuire eased up on his own turn rate in hopes the manoeuvre would draw Sugimoto off Weaver. The trick worked, but as McGuire increased speed then pulled a hazardous turn rate a mere 300 feet off the ground; Pudgy stalled, flip-flopped, and nosed dived into the ground.

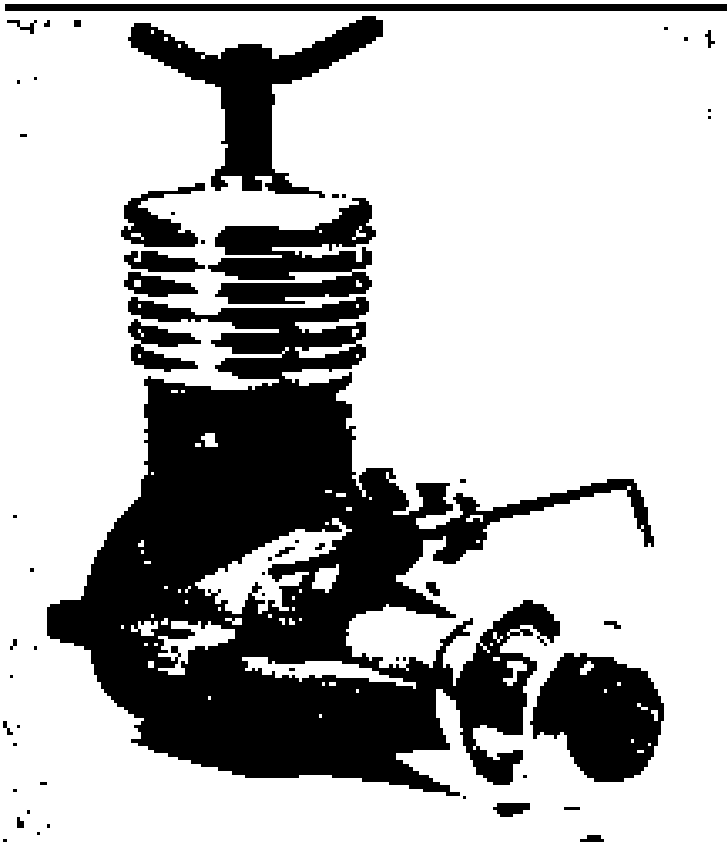
McGuire was killed on impact.

Filipinos who witnessed the incident rushed to the crash site to quickly remove McGuire's body from the P-38 to safeguard his remains from capture. Not until 1947 were McGuire's remains returned to the United States and reinterred with full military honours at Arlington National Cemetery. Like his competitor, Dick Bong, McGuire was awarded the Medal of Honor … posthumously.

Major Richard Ira "Dick" Bong remained America's top scoring Ace of all time. He resumed PR tours, sold war bonds, and became a test pilot on Lockheed's new jet fighter, the P-80 Shooting Star. Shortly after take-off on a routine flight, the P-80s fuel pump malfunctioned and Bong had to hit the silk. Too close to the ground, his parachute never opened. The United States lost her Ace of Aces on Aug. 6, 1945. Bong's death was front page news, but his demise was shared with another historic event that day, the story of a B-29 named Enola Gay dropping a new weapon called an atomic bomb on Hiroshima, Japan.

Records indicate both Bong and McGuire had more kills than officially confirmed. No matter. The crème d la crème of aviators were gone – America had lost two of her best.

Dick Bong and Thomas McGuire, like Mohammad Ali and Joe Frazier, were so different, so alike, and so American.



From

PETER CHINN tests the . . .

E. D. HAWK

1.5 c.c. Diesel Engine

REORGANISATION of the E.D. company, during the past two years, has resulted in the disappearance of most of the diesels for which this marque has become known, including the two 1.5 c.c. models: the Hornet and the Super-Fury. Only the delightful old 4.46 " Racer " in fact, still survives.

The top of the Hornet was certainly no upgrade, as this rather unexpensive engine was obviously long overdue for replacement. The Super-Fury, however, a much improved version of the original Fury of 1958, was certainly one of E.D.'s most successful engines, powerful and a pleasure to handle. But the Super-Fury, fitted with twin ball-bearings and disc-valve induction and a design costing five conscious to eventual production, could scarcely have been a very profitable item for the manufacturer at only £6s. retail. On the other hand, this was nearly 5s per cent. more than the price of the popular plain bearing 1.5's, which ranged from 55s. to 58s. at the time. The Super-Fury therefore fell between two stools: too expensive for the popular market, not profitable enough as a limited production item for the specialist market. One solution, possibly, would have been to raise performance to top output levels by further development and direct manufacturing economies and thereby justify a price around the £8 mark, but the market for expensive high performance 1.5 c.c. engines is a small one and is likely to remain so unless a revision to F.A.I. or R.S.T. A.E. racing rules gives a boost to the class.

E.D.'s solution, therefore, was to replace both Hornet and Super-Fury with an entirely new middle-of-the-road model combining moderate power (6p. 6d.) with a performance comparable with, if closely approaching, that of the Super-Fury. That new engine is known as the " Hawk."

The thing that will surprise most modellers familiar with previous E.D. products is the legend: " Made in W. Germany " cast into the crankcase. The Hawk is, in fact, made in Germany to E.D.'s specifications and those modellers familiar with the products of Moses, Rose and Modell Technik of West Berlin, will not be long in recognising the obvious relationship with Webra engines. We understand that some Hawks are to be assembled from part-German and part-British components. Our test engine, however, was entirely of German manufacture. A few parts can be recognised as being identical with those of existing Webra engines, including the needle-valve, compression screw and crankcase backplate of the current Webra " Record " 1.5 c.c. diesel, but all the major components are, in fact, original to this design.

The basic casting comprises crankcase and bearing housing with integral air intake and beam mounting lugs and, as on the small Webra engines, extra strength is built into the front end by smoothly fairing the front housing into the crankcase proper. Full length webs contribute to overall rigidity. The top of the case is internally threaded for the hardened steel cylinder. This is vertically located by a flange below the exhaust ports which seats on the top of the case with a 0.4 mm. aluminium gasket between the joint faces.

The cylinder is of thick walled section (0.075 in. at the thinnest part) and has radial porting. This consists of three exhaust ports at 120 deg. intervals around the bore, with identical three port transfer ports at similar intervals spaced between the exhaust ports. Exhaust port timing is well advanced, the ports remaining open for some 160 deg. of crank rotation. In our example, there was a slight variation in the heights of the transfer ports and no attempt could therefore be made to determine the precise theoretical transfer timing of the engine but, in common with the trend in modern high speed model engines, exhaust lead is quite short.

The crankshaft has a relatively large diameter journal, 15 mm. in length and a 3.8 mm. dia. gas passage through the shaft is used in conjunction with an elliptical valveport. Rotary valve timing is quite modest and controls from 75 deg. ABDC to 25 deg. ATDC, a total period of only 150 deg. There is, however, a sub ports to supplement air induction period of approximately 80 deg. at the top of the stroke.

Specification

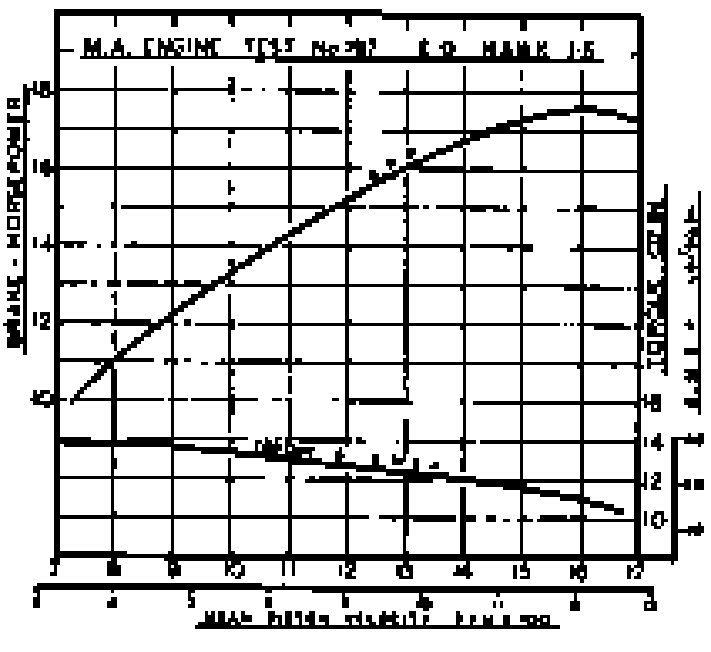
Type: Single-cylinder, air-cooled, reverse-flow scavenged two-stroke cycle with shaft type rotary-valve induction.
Bore: 0.515 in. Stroke: 0.492 in.
Swept Volume: 0.0994 cu. in. or 1.630 c.c.
Stroke/Bore Ratio: 0.881 : 1.
Weight: 5.3 oz.

General Structural Data

Pressure diecast aluminium alloy crankcase and main bearing housing with machined screw-in rear cover. Non-counterbalanced disc-web crankshaft with 8 mm. journal (ground finish) and 4 mm. dia. crankpin (machined finish), tapered end for alloy prop driver and threaded 5 mm. metric for standard hexagon nut. Hardened steel cylinder with tapered head and externally threaded to fit crankcase and machined alloy finned cooling barrel. Sheet steel compression screw with 5 mm. metric thread. Conical crown cam-iron lapped piston with aluminium connecting-rod and pressed-in 3 mm. dia. solid gudgeon-pin. Matching contra piston. Plated brass sprayer assembly with ratchet device. Beam mounting lugs.

Test Conditions

Running time prior to test: 4 hours.
Fuel used: E.D. Economic.
Air temperature: 14 deg. C. (57 deg. F.).
Barometer: 30.30 in. Hg.



Performance

The Hawk has a tapered bore—i.e. the cylinder bore is narrowest towards the top. This feature is used by many radial pressure and Wasp were among the first to recognise its usefulness many years ago. The idea is to obtain maximum compression where it is needed most—at the top of the bore—and where the gaseous expansion and most rapid wear takes place, while keeping piston drag at the minimum over the remainder of the stroke. In the Hawk, the piston and cylinder are set up quite tightly, advertising to "warmth" tightness at TDC in our test example. For this reason, rather longer than our usual run-in period was given to the engine. After this period, the engine was still losing up to 500 r.p.m. when warming up from cold at low speeds, but no power loss was evident at the top end of the r.p.m. range.

So far as our test example was concerned, ease of starting was not an important point. Starting was not tricky, but one could not class it as "foolproof, as of the "must flick or swear flick" variety, especially from cold. Power output, however, was consistently good. A maximum torque of nearly 15 in. oz. was obtained at 8,000 r.p.m., beyond which speed the torque curve declined very slowly resulting in a peak power of approximately 0.135 b.h.p. at 11,000 r.p.m. This, frankly, was an unexpectedly good performance—well above average for a plain bearing 1.5 c.c. diesel of conventional design. In terms of power performance, it was reflected in an 8 × 4 Power-Prop being turned at 10,800 r.p.m. and a 9 × 5 PAW at 10,200

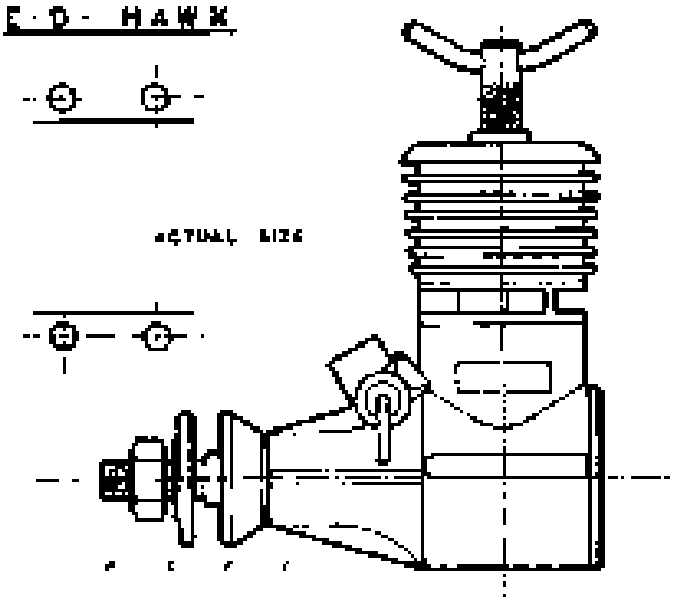
Apart from the slightly slow starting previously mentioned, the Hawk handled quite well. The needle-valve was easy to adjust and did not vibrate out of adjustment. On the other hand, the contra-piston exhibited two characteristics which are seldom found in side engines. When tested for low speeds (i.e. under low compression conditions) the contra-piston tended to work on the lower port, yet when loaded for speeds above 10,000, the compression adjustment tended to run past what a conventional-screw backplate-lever would have been reckoned. It was found, however, that at the correct compression setting for a given prop load, was thus maintained by experiment, this setting could be maintained if the comp screw was left in position until the engine had reached running temperature and the contra-piston had expanded in the bore.

Examination of the engine after the completion of all tests indicated some slackness in the crankshaft—particularly the small-end. Crankshaft wear in the early stages of an engine's life is not unusual with simply having over-generous bores, and was probably aggravated in this particular case by the engine being set up a little more tightly than normal. It does not necessarily imply that early replacement of the original crankshaft is a normal part of the Hawk's running expenses.

To summarise the Hawk's main points, we found it one of the most powerful of its size and price groups, if not the quickest starting. Of reasonably light weight, it has to beat twin-cylinders and should be fairly crash resistant.

Power/Weight Ratio (as tested): 0.098 b.h.p./lb.

Specific Output (as tested): 1.89 b.h.p./litre



Contest Calendar 2019

SAM 600 Australia
Victorian Old Timers Association Inc.
10 Cunningham Drive
Endeavour Hills
Vic 3802

Contests commence at 9 am, unless otherwise stated.

The 2017 MAAA Rules apply

Climb & Glide in brackets will be flown only if time permits

The CD for all SAM600 events will be nominated on the day of the event

General Meeting Echuca 8.30am March 17th / AGM Echuca 8.30am September 22nd

All 1/2A, Duration &Texaco events will have the electric equivalent (except State Champs & Nats)

September 21st-22nd	**ECHUCA** **Saturday:** 1/2A Texaco, Duration, Burford **Sunday:** 8.30 am AGM meeting, Texaco, '38 Antique, (Climb & Glide)
October 5th & 6th	**WANGARATTA Eastern State Gas Champs** SAM1788 Contest
November 9th & 10th	**COHUNA** **Saturday:** 1/2A Texaco, Duration, Burford **Sunday:** Texaco, 38 Antique { Climb & Glide }
November 24th	**BALLARAT** 1/2A Texaco, Climb & Glide, Texaco

C/L Phantoms and Champs at the 2019 Champs Canowindra Control Line Racing event.

Gold Models are by Peter Scott and the remainder are by Peter (Condo) Smith.