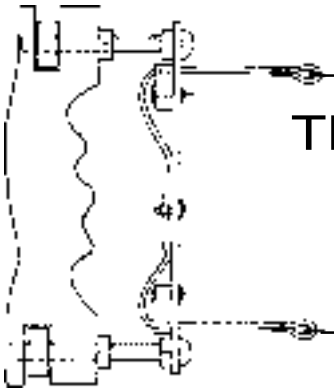


$2.00

THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 71

Produced by the Victorian Control Line Advisory Committee

October 2003

INSIDE THIS ISSUE

Copy Deadline for next issue is: Wednesday 22nd October 2003

PRODUCTION SPECIFICATIONS

Please remember when submitting copy that if you have access to a PC, or suitable typewriter you can save me retyping by giving me your items pretyped, and please use a good black ribbon for best reproduction.

Best of all is to send it on a 3.5" disk as a Windows Write, Word for Windows, or as an ASCII TEXT FILE or use Email

Contest results should be tab delimited, ie use a single tab between each column of results, if submitted by disk. This makes formatting much easier on the editor.

Email address:- acln@ozemail.com.au

COMING EVENTS

CONTROL LINE CONTEST CALENDAR 2003/2004

OCT 5	CLAG Country Flying Day	Maffra
OCT 5	Simple Rat race, Simple Goodyear.	SMAC
OCT 19	**FAI Team race, Goodyear,** Jnr 2.5cc Rat race, **2.5cc Rat race (Riverside Trophy).**	CLAMF
OCT 26	FAI, Novice & Junior Aerobatics, Combined Speed, Class 2 Team race, Vintage "A" Team race, Classic Stunt.	KMAC
NOV 2	Triathlon.	SMAC
NOV 2	C.L.A.G. Country Flying Day	Knox
NOV 9	**FAI & Combined Speed,** FAI & Modified Combat, **Mini Goodyear,** 1/2 A Combat.	CLAMF
NOV 23	Monty Tyrell Memorial (Classic Stunt)	KMAC
DEC 7	C.L.A.G. Country Flying Day	Moe
DEC 7	Aust "A" Team race, Classic "B" Team race, Bendix.	SMAC
DEC 15	**FAI Team race,** 2.5cc Open Combat, **1/2 A Team race.**	CLAMF
DEC 29	MASA CONTROL LINE STATE CHAMPIONSHIPS	MONARTO
	2004	
JAN 2	MASA CONTROL LINE STATE CHAMPS FINISH	MONARTO
JAN 11	C.L.A.G. Country Flying Day	Moe
JAN 26	FAI (Hearns), Novice & Jnr Aerobatics, Classic Stunt, Vintage "A" Team race, Classic "B" Team race.	KMAC
FEB 1	Simple Rat race, Simple Goodyear.	SMAC
FEB 1	C.L.A.G. Country Flying Days	Traralgon
FEB 15	**FAI & Combined Speed,** 1/2 A Combat, **Mini Goodyear.**	CLAMF
FEB 22	Vintage Stunt, Class 2 Team race, Bendix, Classic Stunt.	KMAC
MAR 7	Hand Launched Glider.	SMAC *
MAR 7	C.L.A.G. Country Flying Days	Traralgon

Events will be flown in order of printing. Events in **Bold type** will be flown over hard surface

CLAMF Frankston Flying Field, Wells Rd, Seaford (Melway 97J10), 10.30am start

Contact :- G. Wilson (03) 9786 8153,

Events conducted by CLAMF at the KMAC Field (Melway 72 K9) 10.00am start.

Contact :- H. Bailey (03) 9543 2259

KMAC Stud Rd . Knoxfield (opposite Caribbean Gardens) (Melway 72 K9) 10.00am start

Contact :- T. Matthews (03) 9560 0668.

SMAC Contact :- Reeve Marsh (03)9776 5949

WMAA Horsham. Contact :- V. Cresp (03) 5382 4065

BRCAC Bendigo-Newbridge Rd . Marong

Contact :- S. Power 03 54 424 925

CLAG Contact :- Graham Keene (03) 51924485

Details of venues can be found on web site www.clagonline.org.au

NOTE - All SMAC events to be held at KMAC flying field. SMAC * at Ross Reserve.

All events at KMAC except Aerobatic events to be run by CLAMF, DAC & SMAC members

COMING EVENTS

CLAS 2003 CONTEST CALENDAR

DATE	CLUB:	EVENT:
11th Oct	REMAC	Vintage Stunt (including special award for best Fox powered model)
19th Oct	IMAC (Berkeley)	F2B Aerobatics
9th Nov	SAT (Kelso Park)	F2B Aerobatics
16th Nov	NACA (Gateshead High School)	Classic Stunt
16th Nov	KMFC	Vintage A&B, Vintage 1/2A,
3oth Nov	SSME	F2B Aerobatics
7th Dec	Doonside (at Kelso Park)	F2B Aerobatics
14th Dec	KMFC	Christmas Party and Fun Fly

"IMAC (Illawarra Model Flying Club) - Flying site @Hooka Ck Road, Berkeley. NSW"

"KMFC (Ku-ring-gai Model Flying Club) - St. Ives Showground, Mona Vale Rd, St. Ives. NSW"

"NACA (Northern Area Contest Aeromodellers)-Gateshead H.S.,Pacific Hwy, Gateshead. NSW."

"REMAC (Ryde Epping Model Aero Club) - Peter Board H.S., Wicks rd, North Ryde. NSW."

"SAT (Sydney Aeromodelling Team) - Kelso Park North, Henry Lawson dr. Panania. NSW"

"SSME (Sydney Society of Model Engineers) - Model Park, Luddenham Rd, Luddenham. NSW "

"WMFC (Werrington)-Entrance to flying site @cnr. Landers & Walker Sts, Werrington. NSW."

CLASII CONTROL LINE EVENTS CALENDAR 2003

Flying field at Leichardt Park just past One Mile Bridge Ipswich

Members fly most Sundays between 9am and 1pm. Club competition days are held on the second Sunday of the month. Visitors are most welcome but please bring your F.A.I .card to prove current MAAQ membership. This is a Council Park with permission given to fly only control line planes, no radio and only between the hours of 9am to 5pm. Further information on club activities can be obtained from President Mark McDermott 07 32889263 or Secretary. John Taylor 07 33927679 email johndt@iprimus.com.au

Sept 13/14	**INTERCLUB COMPETITION** "Festival of the Bridge"
.	Mouse/Clasii Team Races. Senior / Junior. 2.5 Slow Combat. Also separate Junior Comp. Trophies and Prizes including Perpetual Replicas. A.G.M. to be advised.
October 12th	Fun Fly. (**BATHURST 1000**)
November 9th.	Clasii Rat, Mouse T/R Senior /Junior. Triaerothon.
December 14th.	Christmas Breakup and Fun Fly.
January 11th.	2004 Fun Fly

Events later in year will be advised at a later date, but as usual Clasii events will be held on second Sunday of each month

KIT TEST: MAKO

Derek Pickard builds and flies a new Brian Bourke sports stunt plane that is being sold as "Semi-ready to fly".

Control line stunt fliers are getting rough treatment. We have to club together for supplies of just about anything while radio fliers have everything in abundance. An example is the Almost Ready To Fly (ARTF) models which radio enthusiasts have had a choice of for years. They merely take delivery, open the big box, fix the pre-finished structures in place and the plane is ready for power. ARTF means a few hours in the workshop on a Friday night before flying on the weekend.

Stunt guys can only dream of such a situation as just about any model from even the most comprehensive kit means at least a month of skilled and dedicated continual work.

Reacting to the need for a different kit, Brian Burke Enterprises in Queensland has developed what he describes as a "partly built semi-ready to fly" kit. Called the Mako, it is a 46-inch span profile sports stunter that is delivered in a 40x11x3 inch box with only needs being the engine, tank, wheel, adhesives, covering and finishing materials. The plane is claimed to be suitable for 15 to .36 size engines - it just depends on how fast you want to fly.

Tearing into the box after delivery, the plot is a kit with a couple of basics assembled. Essentially, this means the bellcrank has been screwed onto its mount and the very strong fuselage has been built and is ready to go.

The kit contains an assembled fuselage, no plan but many instruction sheets. Everything expected is there.

The Mako fuselage sets a new standard in strong profile construction. It consists of two pieces of half inch balsa top and bottom of a hardwood spar with half by half hard engine mounts, 3mm ply doublers, ply rudder and tail skid in place and the undercarriage mounts done (complete with bushed eyelet). Just this slab weighs 8oz but there¹s no doubting the strength - it could hold a badly vibrating 49 diesel, never mind a modern 29 glow. The bearers are set 28mm apart with a cut-back long enough to suit a huge variety of engines. The fuse is also slotted ready for the tail as well as the wing and bellcrank mounts.

Predictably, the wing is foam - in this case of a good shape and like everything else on the plane is well braced. The bellcrank layout is housed inside the wing with the pushrod having an adjustable snap-on end pivot.

Size and layout-wise, this Mako is something like a big Peacemaker or Flight Streak but with a more modern wing shape is used with taper in all directions. Accordingly, an OS20 to 25 is okay for most applications with 29/36 motors strictly for those who like to fly very fast.

After the engine and tank mounts have been drilled, construction is a matter of:

- Mount all spars and bellcrank in the fuselage with the controls in place.
- Fit wings and wing tips pulling lead-outs through.
- Fit tail and link the easy clip pushrod end.
- Cover foam wing and seal the balsa fuse and tail.
- Paint/trim.
- Fit engine, tank and undercarriage.

Although those six points are quick to read, they do take a reasonable amount of time to do properly. Compared to the ARTF models available for radio fliers, this is not "semi-ready to fly" as in reality only the fuselage has been assembled. This Mako must be considered as more like a conventional a kit.

The balsa and hardwood quality together with the vital accuracy of fits are all-okay. The Mako went together with no delays. The only grumble was the provision of nylon hinges for the tail with the instruction for the customer to

"make the blind slot holes" - those awkward things should have been part of the "semi-ready".

Also, there are a couple of gaps in the instructions: the layout of the pushrod guide cut from the rear of the inner wing joint and the need to fit tip weight before fitting outside wing tip. But apart from such small points, the whole build process is straightforward and can be tackled by a beginner.

This kit is either very well engineered or over-engineered. Examples are the bellcrank has all 4 holes bushed; the wing has 4 spars whereas 2 would do (top and bottom) and the fuselage is extremely strong. The only penalty for all this is weight if the plane is to be used for serious competition.

Everything expected in the box was there. Nothing was missing and nothing is skimped. The kit is exactly what you'd hope for from a one-man C/L kitting business which has specialised in combat and sports planes for over 10 years. Great value.

Assembled and ready for the foam wings to be covered. Note the 6 engine mount holes, the sparing use of smoothing filler at some joints and the extra half-inch of balsa on the inner wing.

Experience forced a few deviations from the stock layout. The little wing tip ply style shark fins were omitted to aid ease of covering, all four balsa wing end ribs were fitted to the inner wing for the extra span to give a bit more inside wing area and negate the need for excess tip weight, and the extreme lead-out rake was reduced slightly. Also, a bit of the thin glass matt provided for centre wing reinforcing should be used to prevent damage to the fragile foam tips. All conventional stuff.

Finishing foam wings can be one of the cheapest covering jobs in aeromodelling. There's no need to buy shrink-wrap packaging plastic sold in over-priced rolls or use expensive dope the conventional way. Foam can be covered by ordinary paper stuck down with wallpaper glue. The style conscious can use colourfully patterned gift-wrap. I chose ordinary butchers white paper, which is a plain white that can either be clear-sealed to provide the basis for a colour scheme or painted. Gift-wrap is stronger and the colour options are limitless.

The exposed wood parts of the model (fuselage and tail) were dope-sealed and painted in the normal way.

This model was finished by spraying with aerosols all the one colour and ordinary tape used for the trim. Simple but effective.

Complete with OS FP20, push-on air filter, 45cc tank, and built with a decent amount of epoxy for strength, the plane topped the scales at 32 ounces. That is on the heavy side for the wing area so the engine has to be a good one capable of flying reasonably fast.

Interestingly, I've owned an old and much repaired Flight Streak powered by a PAW 2.5 TBR for years and it also weighs 32 ounces. Since it flies very well and the size is about the same as the Mako, it has to be assumed this plane would fly well with a PAW 2.5 or an OS15. And the only mods to fit such a smaller engine would be no more than the epoxying of a strip of hardwood inside the stock bearers.

In the air, the Mako performs well. The weight is overcome by a fast engine setting and the good wing section handles both manoeuvres and wind. The test plane's OS20 ran 5% nitro for a 9x4 prop on 60 feet 12 thou lines. A special alloy front mini-spinner was used to allow an electric starter.

The finished Mako looks and flies good.

A neat trick used for this plane (and should be considered for light engines such as an OS15) was the drilling of 3 pairs of engine mount holes allowed by the long cut-away in the fuselage nose. The front 4 holes were then used in the beginning to ensure the relatively light OS FP20 had a forward centre of gravity to make the new plane controllable for early flights with a beginner. Once everything had settled and the Mako together with its pilot had covered reasonable air time, the engine was easily

moved rearwards by 14mm to the back set of 4 holes for a slightly more rear balance point. This turned what had been a stable but slightly insensitive plane into something capable of much sharper turns. Once this was done it even performed the F2B aerobatics schedule. And talking of engine mounting, remember to offset wedge the engine position to get the right thrust for line tension.

But the best thing about the whole plot is the total package. This Mako a bargain, anyone can build this good fun/stunt flier which takes a huge variety of engines and the plane is very strong. A great beginner and general sport flier. Recommended.

Declaration of interest: Derek Pickard bought the Mako kit from Brian Burke Enterprises at 2/24 Appaloosa Court, Munruben, Queensland 4125, Tel 07 3200 1308. The price is $90 and the mail cost is $12.

MAKO *(quote from an Australian tourist guide): Very large blue pointed shark found in Australian waters. Keep clear. Killer. Do not attempt to hand feed.*

Cacho's Corner

AMERICANS STUNT AMERICA

When the US top stunt flier, Paul Walker, used a Saito 56 to win last year, it was understandably assumed four stroke engines were to take a leap in popularity. Predictions were being made that the big 72 Saito would make its presence felt at the top level.

But this year's US Nats has shown the previous trend to four strokes has been reversed. Of the 60 entries, only 4 were four strokes - two 56s and two 72s.

The big winner in the US this year was the return to domination by the Precision Aero brand. Over half the entries flew a PA with the PA 61 pipe proving the single most popular with no less than 16 entries. That was followed by the PA 65 pipe with 9 entries. The smallest PA was a 51.

The second most popular brand - but a long way behind PA - was OS but the types varied from a couple of piped VF40s to an ordinary FP40.

European makes like Moki and Stalker were right down the popularity stakes with only 2 and 1 respectively. Even Fox was more popular than Stalker with a couple of 35s having a go.

Americans' love of home-grown expensive equipment with a pipe out the back is certainly on top in the US pro stunt scene this year.

AROUND THE CLUBS

Country Comp. held at Moe on Sunday Sept 7th

All in attendance agreed the combined CLAG and Brimbank Falcons Country Comp. was a great success, due in no small part to the efforts of Alan Mathieson-Harrison and David Gregory of Brimbank, thanks guys. This joint Club approach to a competition day is one we will definitely try again.

The Classic Stunt event hosted by CLAG had 5 entries, the winner being

Craig Hemsworth,	Nobler Fox .35	2556 pts,
2nd place Mark Ellins,	Nobler OS .35	2458 pts,
3rd place Dave Nobes,	Chief OS .35	2157pts.

The Vintage Stunt event hosted by Brimbank Falcons had 7 entries, the winner being Craig Hemsworth,
2nd place Dave Nobes,
3rd place Alan Mathieson-Harrison.

Hopefully some of Ken Dowells photos will accompany this write-up.

J Goodge with his "Demon"

A special thanks to our tireless judges, Vic and Steve Mitchell and Peter Roberts, well done gents. Also thanks to our two sponsors Brain Gardner "Bri-Stunt" and Robin Hiern, Model Racing Services, please support these two businesses, they both supply excellent products.

Aust. "A" and Classic "B" team race seemed to go very smoothly, no doubt John Hallowell will have a write-up elsewhere in ACLN.

Unfortunately I will have keep this write-up short as I too have succumbed to the dreaded lurgi doing the rounds at present.

Keep in mind our next Country Day at Maffra on Sunday October 5th, all are welcome. Further details of CLAG activities and many photos can be found at the club website www.clagonbline.org.au

Graham Keene Sec./Treas. CLAG Inc.

Craig Hemsworth with his "Classic" model that he flew successfully at Moe.

The Combat started with some great bouts but it was not completed due to the time curfew at the flying site. The event will continue at a later date at a venue to be announced.

CLASSIC B T/R AT MOE, 7/9/03

A few early showers gave way to a fine and sunny day ay the Moe Racecourse in Gippsland.
As country events at Bendigo and Horsham are no longer on the Contest Calendar, these Latrobe Valley titles have become one of the most important outside the Victorian State Championships. With just a gentle breeze, it was perfect for getting the cobwebs out of a few Classic B machines. It had been at least a couple of months since these racers have been fired up in anger. Too long, some say.

September 7th was welcome back day to Class B racing for Lance Smith. Lance flew with ETA 29's and Super Tigres back in the golden era on the 1960's. So the experience is certainly there. Lance chose a Charlie Taylor designed Razzamachas as his latest model and had fitted an MRS modified LA 25. Murray Wilson test flew the model but it was deemed unsuitable for competition, as the controls were a bit sticky. So this time, Lance became involved as a lap counter instead of a competitor. He'll be right for December 7th, and competitive…. guaranteed!

Two rounds of heats were run. Graeme Wilson and Mark Ellins set the ball rolling with a stunning PB of 3.11. This with airspeed around the 17/7 mark! The time was achieved with a first flick start and an F2C style pit stop. Chock full of confidence, they declined the option of another heat.

The brothers Hunting were having a day they would rather forget. Nothing seemed to go right. Their Thunder Tiger is still not fulfilling its potential and a couple of slow heats resulted. Peter Roberts reckons these motors are definitely worth persevering with. He's thinking of getting one to develop with lower timing. Look at the Potter's Thunder Tiger. It's got the potential to blow the current frontrunners into the weeds. At least John Hunting's

motor mower started up first pull and worked a treat. We all owe him thanks for bringing it along.

The Cosmic Rays were really honking with the Crescendo / LA25 Combination. Mark McDermott's Australian heat record of 3.06.94 from the last Albury Nationals was squarely in Jim and Colin's sights. And they almost made it. A smokin' 3.07.80 established a new Victorian record, easily smashing the 3.10.94 they did at the Easter State Champs. The time was less than a second from Macca's mark. The Cosmics decided against another heat.

Harry Bailey and Peter Roberts had the older and faster Backtrack on the racecourse grass. They were first to have their model out of the car. Keen and looking good in practice, they were full of expectation for a change of luck. Heaven knows they deserve it. On it's day, the Backtrack has the natural speed to pace it with the best. Again unfortunately, it was not Harry and Peter's day and a couple of slower than hoped for heat times were posted.

Keith Baddock and John Hallowell were debuting the new orange Swooper with OS 25 FP power. It was fast, being at least equal to the Ray's record breaking Crescendo. The FP was having its first outing after a new piston and liner had been fitted. More performance is expected on future competition days. Despite a kafuffle in the pits, two consistent times of 3.17 and 3.14 ensured a spot in the final.

At the starter's shout, all teams were instantly away. It was 2 FP's against an LA. The three racers were all getting 47 laps range, essential for recording a fast time. Then disaster struck Jim and Mellins in the pits. For some unknown reason, Jim's LA refused to fire up. Very strange and most unusual. Main suspect is that the LA piston and liner is out of round. Colin waited for nearly 2 minutes until it fired up. That's game set and match to the opposition. Mellin's simply took a leaf out of Harry Bailey's 'How To' book and caught fire... That slowed 'em up a bit! Meanwhile, back in the centre circle, John continued to circulate until the 140 laps were up. Despite giving the other teams an estimated 3 laps start (no battery person) the new, bright orange Swooper finished first on it's first outing in 6.26.29.

Results of Classic B at Moe on 5/9/03

1. Hallowell / Baddock	3.17.94	3.14.65	6.26.29
2. Wilson / Ellins	3.11.50.	DNF	6.39.91
3. Ray / Ray	3.07.80 *	DNF	8.30.78
4. Bailey / Roberts	3.51.09	5.13.83	
5. Hunting / Hunting	5.24.30	4.46.78	
6. Wilson / Smith	DNS	DNS	

*Victorian 70 lap heat record
John Hallowell VH 1984.

Aussie A was the other racing event of the day. This event has exactly the same rules as Vintage A but allows the use of modern schnerle ported engines. Five teams took part on the day. This was reduced to four when the Hallowell/ Baddock "Voodoo" broke the U/C. Engines used were mainly OS15FP's and Wilson/Ellins used a Taipan diesel. The winning team of Bailey/M Wilson were consistantly quick using a stock standard OS15FP and were getting 50 laps per tank.

1. H Bailey/M Wilson	Footprint /OS15FP
2. C Ray/J Ray	Fury /OS15FP
3. G Wilson/M Ellins	Footprint /Taipan
4. J Hunting/K Hunting	Voodoo /OS15FP
5. J/Hallowell/K Baddock	Voodoo /OS15FP

W.A. NEWS

Tarmac Notes For August and September.

While Charlie is swanning about on his tour of the Eastern States this slightly briefer-than-usual report will attempt to cover as many of the happenings that I've been able to catch up with between distractions.

August 30th saw the State Champs Vintage Combat fought out with the usual carnage and localised showers - of balsa, that is. One of the highlights of the event it seems was Adrian Dyson's effective disposal of two opponents by overshooting their streamers and attempting to occupy their models' airspace. Once, an accident but twice, Adrian? Really!! When all was settled the placings were Gary Turna in top spot followed by Adrian Dyson and Trevor Letchford. Gary's model was an Ironmonger, Adrian used an Orcrist and a Dominator while Trevor also employed an Orcrist and a model, the name of which escapes me. All power was supplied by PAW 15s.

Because of a somewhat irregular attendance at the field, I haven't seen too much of the racing crew in action. Mark Sherburn turned up recently with a neat little Crescendo-inspired Classic B powered by an OS 25 FP. During test flights where it was showing promise, something appeared to let go in the control system sending the model in with disastrous results to the wing although the fuselage survived virtually unharmed. Trevor Letchford followed this up with a succession of fairly quick flights with his Vintage A "Phtt" powered by a Russian made Oliver Tiger 2.5 replica. Jim Stivey has also been sighted piloting a very quick Fred Adler owned Vintage A Aeroflyte Fury with a noseful of Taipan 2.5. All this activity seems to indicate a looming battle of the Vintage A's.

On the aerobatics scene, Alasdair Taylor recently found an elderly Geiseke Nobler with a Super Tigre 40 lurking in the dusty depths of his workshop, which he brought to the field and proceeded to put through its paces. Although the Tigre prefers to run a bit fast, Alasdair was soon flying with confidence and sorting out the pattern.

Some months ago, Dick Morrow laid out some hard earned (ill gottens?) to purchase from BRISTUNT a Stalker 61 RE which at present resides in the nose of a rebuilt Sig Magnum. Dick reports that the Magnum flies better than it ever did due, in all probability, to the additional, very controllable power of the Stalker. With about four hours running time on it and still quite nippy at TDC, it should be an excellent motor when running-in is complete.

Chosen from an extensive list of nominees, this month's "Hard Luck Story Of The Month" award goes to Mal Bone. It happens that Mal had sent his Stalker 50 head to BRISTUNT for minor mods and on its return journey, along with a package of assorted odds and ends, it was lost when a fire broke out in the Australia Post truck completely destroying truck and contents. As Mal works for Australia Post, I wonder if the boss will see fit to help him out in his loss?

Many of us, irrespective of the events we fly, have at some time built models that "hunt" i.e. won't continue to fly at a constant controlled height. I have heard of this occurring in full sized craft also, so we obviously don't

have a monopoly on the problem. Applied to C/L stunters, it also affects the model's tracking in round manoeuvres and its ability to cleanly exit square and triangular turns. It is pretty much a given that hunting is a result of a misalignment, either built-in or occurring after the model is taken off the building jigs.

Over the years there have been many magazine articles on this subject suggesting fixes such as elevator horn slop (but none in the bellcrank/ flap horn linkages), thick stabiliser/ thinner elevators, increasing or decreasing leading edge radius of wing or stab, biasing elevator/ flap neutral settings, setting stab. with positive incidence, engine downthrust, addition of nose weight or tail weight, moving leadouts forward or rearward in conjunction with addition or subtraction of tip weight. Curing or lessening the hunt is a matter of trial and error with these adjustments or, worse still, combinations of them.

Over the past twelve years I've built close to twenty stunters, seven of which were "hunters". Four were cured by adding about one degree of downthrust to the motor, two didn't respond to that adjustment and one I haven't attempted to work on ... too busy with the others. One of the four that were cured didn't respond to any of the above adjustments, which included cutting the stab. loose to remove built in incidence, until I tried the motor downthrust trick. Of the two that didn't respond, one was fully adjustable in all respects and theoretically should have been fixable.... who knows what its problems were.

I'm no expert on trimming a stunter (I should be ... I've built a few "dogs" in my time) and don't have too many of the answers, but the above is from a combination of reading, observations and experiences.

Before you dismiss your next apparent failure, its worthwhile working your way through a checklist of possible fixes even if it means cutting into your mirror finish or ending up with the spinner out of alignment with the nose ring. Blemishes such as these will become just a little less noticeable if you can trim the model to fly well.

For those of you who have been following with bated breath the saga of the workshop at a certain Beldon (WA) address, breathe easy. It's finished and is piled high with boxes of goodies waiting to be unpacked and spread around in the usual comfortable confusion.

If all goes to plan, Charlie will be back next month to regale you with his wealth of information and anecdotes. In the meantime, safe and successful flying to all.

Peter White

LONG GONE

BEST COMBINATION WE KNOW - GOOD LOOKING, DISTINCTIVE AIRCRAFT WITH TOP PERFORMANCE - OUR TEAM RACER HAS YET TO FAIL IN ANY CONTEST ENTERED.

By ED HEISER

The "Long Gone" team racers the result of a long line of ships, the first was built and flown in the summer of 1957. Since then, eight more have been built, the last four being identical ships and each has truly earned the name "Long Gone". They have logged hundreds of hours and miles in five years, during which only one consolation race had to be flown (blown plug). In its record to date, in fourteen A.M.A. and Canadian sanctioned contests, it has never failed to "bring home the hardware". It's best performance was this year at a contest in Garden City, Michigan, where it won the feature 140-lap race in 7 minutes and 22.8 seconds. This was done using a stock Enya .29 and a modified Power Mist fuel.

Through experience, many features were built into later versions to insure trouble- free operation and desirable flight characteristics. The use of a built up wing serves two purposes. Firstly, the wing is inter- locked with the fuselage; the bellcrank then can be mounted to the motor mounts relieving stress on the wing. Secondly, the wing is covered with coloured Jap tissues usually yellow and clear-doped. When the plane is flying, light striking the wings reflects a brilliant yellow which is easily seen by both officials and pit crew. This is important, being able to pick out your plane and to keep better track of laps completed during a race.

Oil seepage is the deadliest enemy of a plane that is required to fly a gruelling twenty-mile an afternoon, many times during the flying season. This ship is completely sealed from the firewall back including the tank, which has caused no trouble to date. The use of a torsion bar- styled landing gear was an idea incorporated from stunt ships. The landing gear will absorb most of the finding shock without transmitting it to the airplane itself. The many landings required by a team racer, (many are far from being smooth), illustrate that this type of gear is a must. Without it, the plane will eventually start to fall apart at the joints, as many of you know.

The fuel system is the most important part of any ship. There are many pros and cons on the subject of pressure systems against conventional systems. My theory is the simpler the system, the better the system; this is the reason for no pressure tank or system being used. The use of a K&B Sure-stop Shutoff, modified its shown on - the plans, will give sure engine stops and cannot be shut off accidentally in flight. It is set up so that only on full down elevator will the plunger be tripped, a quick jerk of the down line will do fine, and won't endanger this ship. The tail gives a little "wag or wave" without loss of flying speed or altitude.

I have installed an electrical system in the plane. The use of a telephone jack does the trick. It eliminates the need for clips and trying to connect them. This takes time, and in a race every second you can gain is to your advantage. We have been using the shirt-pocket ABC wet-cell batteries, using a long cord and running, it down and out ourselves. In this way, the chance of letting a plane go during a race with the battery still attached doesn't exist. Believe me, I have seen it done.

CONSTRUCTION:

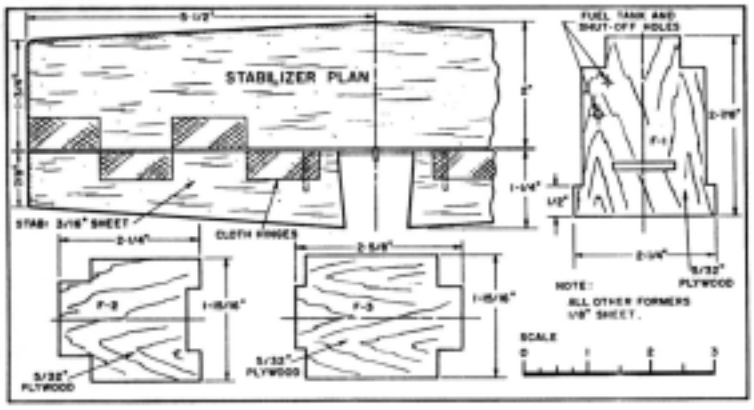
Cut two fuselage sides from matched sheets of 1/8'' medium balsa. Cut two cor- responding 1/32" plywood doublers and glue together with the 1/8" sheet, being sure there is a left and right side. Cut bulkheads F-I, 2 and 3 from 5/32- plywood. Cut tailskid mounting from 1/16" plywood. Bend 1/16" wire to desired shape and bind securely to plywood, gluing well. Motor mount assembly comes next. Cut two 3/8" x 1/2'' motor mounts to shape, also cut three braces to size. Assemble over plans using six #6 x 3/4" wood screws. This completes motor mount assembly. When sides are dry, glue onto motor mounts, formers F-I

and F-2 are also glued at this time. Bevel rear of fuselage sides and cement together with tailskid former in place, holding them with pins and rubber bands. Next, drill holes for bellcrank and jack; make certain that the hole for jack is on the right side of the plane. Mount the tank in position shown blocking up tank with scrap balsa on all sides. Bend the 1/8'' wire landing gear, make sure there is a right and left gear, mount to F-3 and glue into place. Tack glue on top and bottom blocks, shape and then remove so that they can be hollowed out.

WING AND SLAB ASSEMBLY:

To start, pin down the 1/8" x 2" bottom L.E. of wing; to this, glue the 1/4'' x 1/2". spruce L.E. Splice T.E. as shown and pin into place. Cut twelve identical ribs of 1/8'', medium sheet and two 1/4" sheet tip ribs. Glue ribs into place, cutting off the back edge of each rib until it fits into place. Double glue all ribs, this prevents the wing from warping. When dry, lift off plans; it is now ready to assemble to fuselage.

The stab is built from 3/16" hard sheet balsa. Sand to airfoil shape, mount a small Veco control horn into place. I prefer using aircraft tape for hinges, running them the full span of the stab as shown.



FINAL ASSEMBLY:

First step is to glue tile wing into place. Cut two ribs from 1/2''sheet balsa and glue into place, flush with sides of plane. Mount bellcrank assembly into place, bend the 1/16'' elevator and fuel shut-off wires to shape. The elevator push rod is two pieces, bound with wire and soldered. When bellcrank is positioned, slide it into place and solder the two push rods together.Check elevator and fuel shut-off system for freedom of movement, be sure there are no binds. Solder shut-off to tank, make sure that no solder gets into the shut-off valve or tank fuel feed to engine, Solder a small washer on shut-off wire so that with full down the shut-off is tripped, but under normal movement the shut-off isn't tripped. Next, mount the phone-jack, running the wires as shown on the plans, be careful that they won't interfere with the operation of the control system. Cover top of wing with a sheet of 1/16" x 2" sheet balsa. Cover centre section of wing at this time. Again, check control system for binds. Add top and bottom blocks. Rudder is cut from 1/16" plywood and offset 1/8''. Add pilot; make sure there is a minimum of at least 3 3/4" between pilot's head and bottom of plane. Radio gear is made of scrap balsa, it isn't necessary but adds to the appearance of the plane. A cut-down P-47 (Berkeley) canopy was used. Cowling is built-up by using five pieces of 1/2'' balsa, each individually cut to fit around the engine and fuel shut-off. Glue together and sand to desired shape. Cover with silk. The finished airplane should weigh in around 24 ounces.

Now that your bird is finished, you want to test its wing. Here are a few tips on what to expect. The "Long Gone" was designed for quick take-offs, fast acceleration, and good flight characteristics. When taking off, it is best to hold neutral elevator. This gives better first lap acceleration time. Usually the half-lap acceleration time runs between 2.75 seconds and 2.95 seconds so hang on, you re off to the races. Once airborne, the plane is very stable, it will groove easily and yet response to control is positive and instant. Landing is about the same as landing a stunter, when the engine quits; it will glide for a lap and a half without "whipping" and makes a 3-pointer every time. If spot landings are desired, by wiggling the elevator very fast, it will slow down within one-half lap to a safe landing.

A little word here; in team racing the plane is only half of a winning combination, much to the surprise of many. The other half of a winning team racer is the team itself. Complete cooperation between the pilot and the two mechanics is essential, if not the more important of the two. The pit crew's knowledge of the airplane and engine along with the pilot's job of flying do the trick. Get a team together; one that will stick together, work hard, and isn't afraid to spend many hours of practice.

Gradually a team will form through practice. The pit crew and pilot with practice will learn the airplane ''inside and out" so to say. A signal system between crew and pilot is also very helpful. Another little helpful hint is to have the mechanics wear bright coloured shirts, it makes it easier for the pilot to spot where his crew is and spot land the plane at their feet. On the subject of pit stops, this is where a race is won or lost. Our plan at a race will usually have a bystander time our pit stops. I recall when twenty seconds was our best time, but since then we have reduced it to an average of seven seconds from the time we touch the plane until it is airborne . . . .

MODEL AIRPLANE NEWS August 1967

FULL SIZE PLANS OFFER

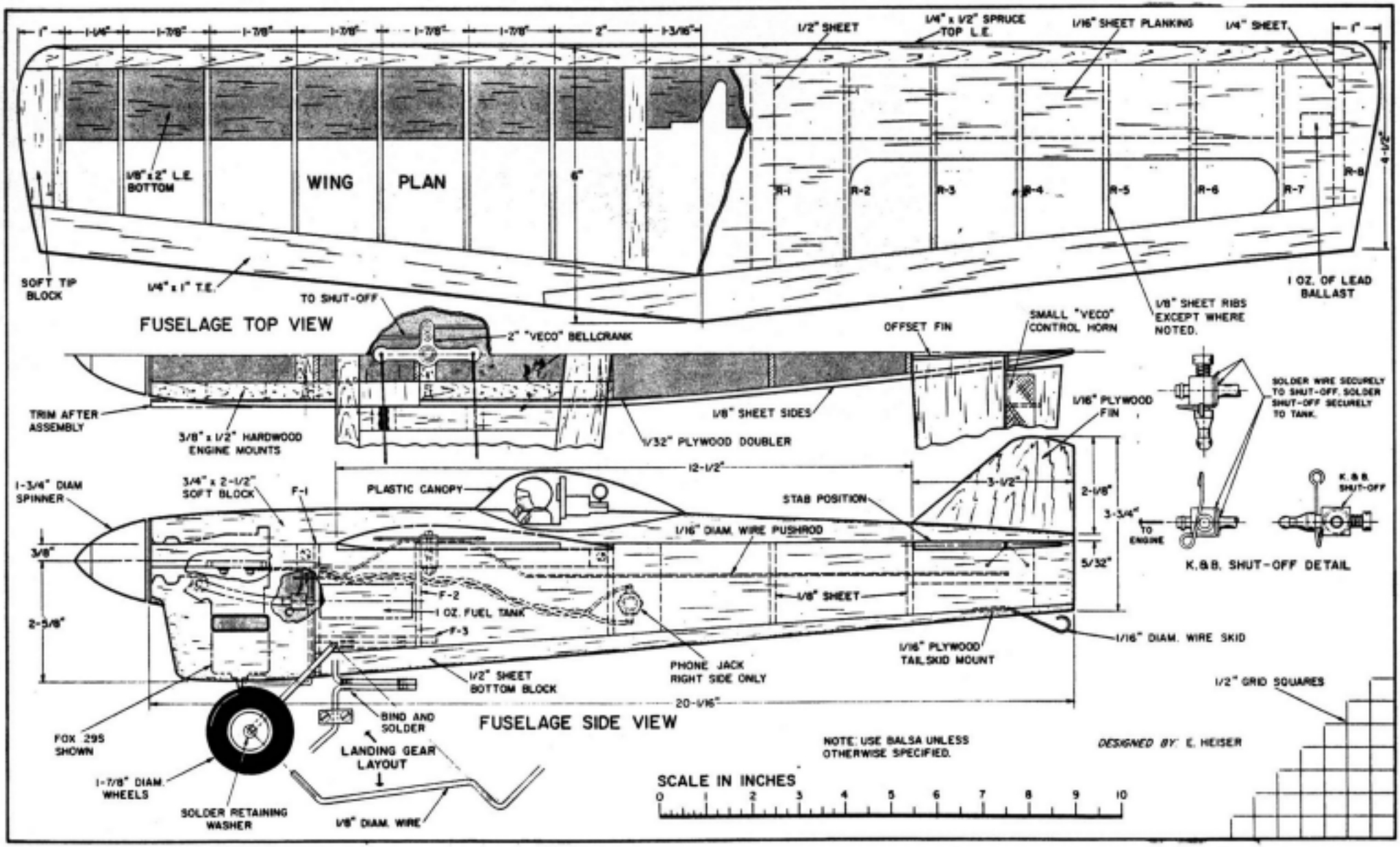
The Long Gone is an American B Class racer from Detroit that was winning races during the Classic era of 1962. I have a full size plan and will have a copy printed and posted to anybody in Australia who would like to buy one. Just send a $5 note with your name and address to me at P.O. Box 181, North Melbourne, Victoria, 3051.

I would suggest making the Long Gone wing from solid 3/8'' sheet. Instead of the flat bottom section shown, use a 2/3rd - 1/3rd semi symmetrical section with a 25% high point on top and a 15% high point underneath. That formula has certainly worked with the 'Flying Purple People Eater'. Another option would be a high speed symmetrical section such as the Dalesman uses.

Thanks to US B Class historian Dana Wall for finding the original Long Gone magazine article and sending it to Australia.

John Hallowell
VH 1984

PS: There could be another plan of a Classic B Team Race beauty available soon. It's the Dave Platt designed 'Panther'. A British semi elliptical racer from the sixties. By all accounts, it will be well worth waiting for.


WING PLAN
FUSELAGE TOP VIEW
FUSELAGE SIDE VIEW
1/2" SHEET
1/4" x 1/2" SPRUCE TOP L.E.
1/16" SHEET PLANKING
1/4" SHEET
1/8" x 2" L.E. BOTTOM
SOFT TIP BLOCK
1/4" x 1" T.E.
TO SHUT-OFF
2" "VECO" BELLCRANK
OFFSET FIN
SMALL "VECO" CONTROL HORN
1/8" SHEET RIBS EXCEPT WHERE NOTED.
1 OZ. OF LEAD BALLAST
TRIM AFTER ASSEMBLY
3/8" x 1/2" HARDWOOD ENGINE MOUNTS
1/8" SHEET SIDES
1/32" PLYWOOD DOUBLER
1/16" PLYWOOD FIN
1-3/4" DIAM. SPINNER
3/4" x 2-1/2" SOFT BLOCK
F-1
PLASTIC CANOPY
STAB POSITION
1/16" DIAM. WIRE PUSHROD
F-2
1 OZ. FUEL TANK
F-3
1/8" SHEET
1/16" DIAM. WIRE SKID
1/16" PLYWOOD TAILSKID MOUNT
1/2" SHEET BOTTOM BLOCK
PHONE JACK RIGHT SIDE ONLY
BIND AND SOLDER
LANDING GEAR LAYOUT
FOX 29S SHOWN
1-7/8" DIAM. WHEELS
SOLDER RETAINING WASHER
1/8" DIAM. WIRE
SOLDER WIRE SECURELY TO SHUT-OFF. SOLDER SHUT-OFF SECURELY TO TANK.
K. & B. SHUT-OFF
TO ENGINE
K. & B. SHUT-OFF DETAIL
1/2" GRID SQUARES
NOTE: USE BALSA UNLESS OTHERWISE SPECIFIED.
DESIGNED BY: E. HEISER
SCALE IN INCHES
0 1 2 3 4 5 6 7 8 9 10

Engine test: Double Star 50 Mk2

TRADITIONAL STUNT POWER

Derek Pickard tests the upgraded Double Star 50 which the maker claims has the 4-2-4 run and power of the beloved Super Tigre 46.

About 6 years back the Moldavian engine maker, Double Star, released an engine which dropped into Tigre 46 mounts. At the same time they enlarged the capacity a little and the resulting 50 came on the market with all the excellent Double Star quality for which the factory is now famous.

But while most fliers found the DS50 to be good, a few found the 4-2-4 run behaviour a little hard to reliably sustain. The satisfied owners got what they wanted only after a few trial & error tuning sessions of adding shims and nitro.

Now, the factory has found its own resolution and this new motor is claimed to be the nearest thing to the ST46 since the ST46. This upgraded DS50 has two major changes:

• Instead of DS' excellent version of AAC, this new stunt engine has a single ringed piston that works in a liner with very little taper, called AAC-R.

• From new, the right number of head shims are fitted to ensure a low compression for a 4-2-4 stunt run on 10% nitro.

The result is claimed to give the power of an ST46, as reliable a 4-2-4 run and good hot restarts.

Out of the box, this is a very impressive engine. Not only is the quality of materials and manufacture what others should copy, but all the basic numbers are right. Just like the classic 46, this 50 is light and compact.

Double Star 50 Mk2. While the external appearance is identical to the previous model, the internals deliver a sweeter stunt power.

The DS50 is slightly lighter than an OS 40 or 46 and its mounts are the same as the ST46. The finish is superb, standard of engineering excellent and the break-in time is around 10 minutes.

A side muffler is used which is light and the needle is an odd shape to allow it to be removed and refitted with the muffler in place. Also, the threaded front of the shaft is a little longer to accommodate thick props and spinner. Top marks for both of those helpful little points.

I don't like the cast-in exhaust mount lugs on the case as they are too short and could break off. Also, when playing around with the engine prior to testing I found if the exhaust screws were tightened to the max the case/liner distorted slightly and the extra pinch could be felt on the piston/ring fit. Yep, you read that right. Investigation found that putting the next size drill through the case holes solved the problem.

Tearing it apart and measuring all that matters revealed an incredible amount of decompressing. The original DS shims sets the compression measuring a reasonable 6.5:1, but the extra shims fitted, this is reduced to 5.3:1. And that folks is the lowest I've ever measured.

Querying this matter with distributor Tom Dixon brought the reply: "Test it as delivered and leave all those shims in place. 10% nitro and around 12x6 prop will be fine." So that's exactly what was done.

For those who like numbers: the 22.3x20.5mm bore and stroke gives 8cc, the bushed shaft is 12mm diameter and timed at 40-43 degrees with the exhaust/transfer ports at 140/120 degrees. Stock venturi is a large 305 thou, the rod is bushed with oil holes at both ends and the liner is tapered by just 0.0001 thou. Head design is hemi and the exhaust port is split with a lower expansion slot. The whole thing fits between 33mm beam mounts in the ST46 holes and weighs just 9.3 ounces complete with muffler.

The all-important ring fit is superb. Just superb.

The big question with such an engine is can it totally replace the famous ST46. That legendary Tigre deserves it reputation as the engine was dependable with 11x5.5 to 11.5x5.5 props on 5% nitro but going any more than 11.5 diameter needs a lift to 10% nitro. Pulling something big like a 12x5.5 or more two blade is a test of a top ST46 and 15% nitro is needed. So not only was the power good but the run behaviour set the standard.

For this test, a Bolly 12x5.5 two blade was used a was 10% nitro and 20% oil (50-50) fuel. The test plane was one of the all-time ST46 favourites - the 1970s Stiletto beauty. This 60 inch design masterpiece is both graceful and functional. Thousands of these models all over the world have had Tigres in the nose in the past few decades.

The plane was built by the 1970s Australian stunt champion Doug Harlow a couple of years ago when he made his comeback with an ST46. It gave a good account of itself in club competition before Doug decided to move up in engine capacity.

Test plane was a Stiletto from the late 1970s. One of stunt¹s all-time greats.

With the ST46 and a large OS muffler, the Stiletto weighed 54 ounces and flew well. To keep the same balance point by fitting the new Moldovan power unit and its more compact muffler, nose weight had to be added. Fit-wise, while it did sit in the same bearer holes, 3mm plates were used to space the engine slightly lower as the fuel tank had been solidly positioned for the Tigre's NVA and it was decided in this instance to move the motor down rather than try to shift the tank. (Just for the record, whereas the ST46 has its NVA about 5/8 inch off the bearers, the DS50 is the traditional 1/2 inch.)

This slight alteration to the mount meant altering the muffler and NVA holes together with a slight step for the spinner to the start of the fuse.

So, apart from the NVA and exhaust stub height, this DS50 is a bolt-in replacement for the ST46.

On paper, it's logical that as the new engine is nearly 10% bigger by capacity over a Tigre, a larger prop should be used. Instead of an 11.5 inch 46-size prop, 12 inches is more appropriate.

And while that's normally correct, this new model Double Star's decompressing has opted to sacrifice the potential power gains of the extra cubes in favour of achieving a dependable 4-2-4 stunt run. 10% nitro and sufficient shims will power a 12x5.5 two blade Bolly fi-glass with relative ease.

With 66ft (centre to centre) 15 thou lines, the repowered Stiletto was released with the motor holding a delightful 4 stroke. In the air, this settled within a lap and that set the tone for the run. After a couple of flights tuning and resetting, it became clear that the DS50 has all the gentle 4-2-4 switching of the Tigre with every bit as much power. This new Moldovan engine really does do what was expected.

Then doing the obvious and removing some of the stack of shims Tom Dixon fitted before returning it to the stunt circle. This showed a lift in power but with a more aggressive 4-2-4 switch and a brief lag before each return shift. Set that way, the DS50 has noticeably more power than the the ST46 but is not as sweet.

So all the head shims were refitted and the loveable ST46-type 4-2-4 stunt run was regained. Although this means definitely no more than a 12 inch prop can be run and in some cases a 11.5 could be better, it does mean achieving what very few other engine makers have done in nearly 20 years.....give customers a real Tigre type stunt run.

And to answer the vital question of: Is this a direct replacement to the famous ST46? The full answer has to be two-part. Obviously nothing will ever exactly match that engine's unique power and run which Super Tigre obtained from such a compact motor. But that golden oldie is no longer available so it's a case of going for the closest possible replacement. And as that's the criteria, this DS 50 MK2 can definitely be considered a replacement. But don't go demanding too much power and leave all the shims in place.

Conclusion: When fitted to ST46-size planes, this Double Star 50 Mk2 not only gives a similar run pattern to the famous old Tigre, it also has similar grunt. Definitely recommended.

Declaration of interest: Derek Pickard received this engine from distributor, Tom Dixon of PO Box 671166, Marietta, BA 30066, USA, who sells them for $US205 complete with muffler. It was returned after the test.

QUEENSLAND C/L NEWS

CLASII held its Combat and Team Race weekend as scheduled. 2.5 Slow Combat had only 6 entrants with all coming from CLASII and Thunderbirds and one of the most consistent supporters of CLASII events, Brian Burke.

There was a $170 Norvel 2.5cc motor up for grabs. With this great prize on offer, one would have thought more flyers would have shown up. Maybe they were out fishing or boating in Qld's superb climate!

CLASII rat attracted 5 competitors, including 2 juniors. 2.5 Slow Combat was won by Mark McDermott, which gave him the Norvel motor prize.

The Dillons had their revenge by winning CLASII Rat by 2 laps from McDermott and Redmond.

RESULTS:

Junior Rat.			Final
Matt & Stan Redmond	62	73	154
Trent & Mark McDermott	41	45	138

Senior Rat.			
P.Dillon / M. Dillon	78	DNS	174
M. MCDermott / S. Redmond	94	DNS	172
J.Henderson / J. Taylor	53	70	92
R.Edgerton / C. Turner	1	32	

Combat.

M.McDermott	WWWW
B.Burke	LWWL
M.Redmond	WLL
R.Edgerton	LWL
M.Dillon	LL
W.Jackson	WLL

Mouse Racing.

R.Rdgerton / C.Turner	34	88	169
M. Redmond / S.Redmond	51	97	
P.Dillon /J.Taylor	62	DNF	

This was a really great flying weekend. Thanks to all who helped make it a success.

Mark McDermott.

ALL MODELLERS ARE INVITED TO THE GRAND OPENING OF THE VICTORIAN STATE FLYING FIELD

CELEBRATING:-

THE CENTENARY OF FLIGHT AND

NORTHERN FLYING GROUPS 25TH YEAR

THE MAIN EVENT ON 23RD NOVEMBER 2003

BRING YOUR MODELS AND JOIN THE FUN.

FULL SIZE FLY OVER.

GRAND OPENING CELEBRATIONS

EVERTHING ON SITE!

A WIDE RANGE OF QUALITY HOME MADE FOOD

HOT AND COLD BEVERAGES

DISABLED TOILET AND FIRST AID POST

PLENTY OF ON SITE CAR PARKING

MODERN AND COMFORTABLE CLUB ROOMS

A CONTROL LINE CIRCLE IS BEING PREPARED AND CLAC WILL BE GIVING C/L DEMONSTRATIONS AND TRIAL FLIGHTS.

WHERE: QUAYLES RD, DARRAWEIT GUIM,
3KM FROM BOLINDA RD INTERSECTION,
MELWAY'S REF 425 G3

ENQUIRIES : SECRETARY - DAVID BELL (03) 94014274

(Above)
Pictures of the Oliver Tiger replica engine that is being produced by Steve Rothwell.

Steve informed ACLN that deliveries of the R250 have started and that the complete batch will be finished during the next couple of months.
The first batch was completely sold out and production of the next is starting.
These engines are made for the vintage events such as Vintage A T/R
Diesel Combat and F/Flight Vintage power.
The price tag is A$350.

Contact details. Email
sales@smrpl.com.au
Tel 02 9986 3745
Fax 02 9986 3743

Tell the world about it – especially this year!

Regarding active promotion of aeromodelling in general, and control-line in particular

Having read the article by John Hallowell in the September 2003 issue of ACLN regarding the promotion of control line, I feel the need to add my voice to the "call to arms". Some of you will have already been subjected to my rantings on this topic…

Firstly however, I'd like to clarify something that John's article highlighted. My comments on proficiency ratings may be open to misinterpretation. I was not specifically advocating such ratings or qualifications, simply suggesting that we should understand what we wanted before we make the decision to implement. Unfortunately, in Victoria we are about to do the reverse – we will instigate some kind of programme, and then wrestle with all the surrounding issues afterwards!

But back to the current topic. John is absolutely correct when he points out that the easiest yet most effective strategy for promoting aeromodelling is just telling people about it, and how enjoyable, accessible and rewarding it is!

This year we have a golden opportunity to demonstrate our relevance within the general community. We are celebrating 100 years of flight (counting from when the Wright brothers first demonstrated controlled, powered flight in 1903). This is a major topic of interest in all schools. Scout troops have an aircraft component in the badge programme. Local libraries are always on the lookout for static displays promoting a theme. Remember, the first successful aeroplanes were models, and models have recently been in the news with deployment of UAVs to the Solomons…

Many of us keep our interest in model aeroplanes hidden from the public because we fear we will be seen to be "geeks". There's always a danger of that (for all manner of personal interests), but if we keep going the way we are, then it won't matter - because control line will no longer exist! So:

- Wear your club shirt/jacket in public, not just when you head to the flying field. (Don't have a bright, colourful club uniform? For shame!) Talk to the people who notice.
- Tell your workmates what you do on the weekend.
- Talk to the boy and his mother in the shopping centre carpark when he says "Look at the model plane in that man's car!".
- During flying days, (even if only practising) take the time to talk to members of the public who stop in for a look.

When you do end up talking to people in scenarios such as these, be enthusiastic (you do enjoy what you're doing, don't you?). Highlight the positives of control-line. Carry a stock of club pamphlets to hand out. Be on the lookout for friends and colleagues who may be interested in getting your "expert help" (such as the school teachers, Scout/ Guide leaders etc mentioned above).

Being presented with an opportunity to promote our pursuit is one thing – using it to best advantage is another. It is important that the opportunites to catch the eye of the public are not wasted. We must grab every opportunity, and make the very most of each such event.

As an example, display days are much more than just getting lots of people to show up, and having a few trainer models available. There should be lots of action, variety, colour and entertainment. Some important points:

- Large signs and loudspeaker announcements are mandatory (we're trying to tell people what's going on, remember?)
- The models flying should demonstrate some relevance – combat with WWII models will hold the attention of the unintitiated for longer than clear-covered combat wings, and there's no law that says trainer models must be plain and boring – add a painted canopy and some markings, even if it's simply the club name as a civilian registration
- There should be a mix of types demonstrated, and no gaps in the programme – especially no periods where there are no models flying, and all the flyers are standing around talking to each other instead of the public!
- Any "contest" activity should be staged if necessary to ensure continuous action (no flying around level for lap after lap letting the other guy catch up to get a streamer cut – deliberately fly in front of each other to generate activity! It doesn't matter who wins…)
- There should be "spruikers" chatting to the people individually about what's going, and what's involved (but without drowning them in a flood of technical jargon and irrelevancies). Ideally the PA should be explaining the current action, but knowledgable people talking about specific questions and points of interest is also desirable

Of course, there are far more aspects than can be discussed in a short article such as this, but the first steps to bringing more people into the hobby are

- Letting them know we exist, and
- Getting them interested enough to want to be an active participant

Remember, if we don't do it, no-one will.

Reeve C. Marsh AUS 13953

For the club member this Super Sale:

Saturn control kits have built a great reputation world wide.

SALE, Sale, Sale, Sale.

Mk 1 Thunderbird was	$245-00 Now	$199.
Mk 2 Thunderbird was	$245-00 Now	$199.
Palmer hurricane was	$245-00 Now	$199.
Palmer mars was	$245-00 Now	$199.
Central KT Centuar was	$245-00 Now	$199.
Central KT Saber stunt	$245-00 Now	$199.
MK 1 All Australian	$190-00 Now	$159.
All Australian Mk 2	$190-00 Now	$159.

All kits come with tank of choice, flap horns, bellcrank. plus a free 1 meter wide x 2 meter Ozcover (as Doug Grinham uses on his stunt models) free of charge.

One only Brodak 40	cost	$190-00.
OS LA 46 R/C		$119-00

Remember Saturn CA Glue the best there is.
Yours in modelling. Tony Cincotta.

TONY CINCOTTA'S
HOBBIES
SATURN
WE ARE NOW AT
FIRST FLOOR, 17 ARDENA COURT.
EAST BENTLEIGH. 3165.
(ABOVE MOUSE WORKS CERAMICS)
PHONE(03) 9579 7566
(03) 9579 7555

WANTED

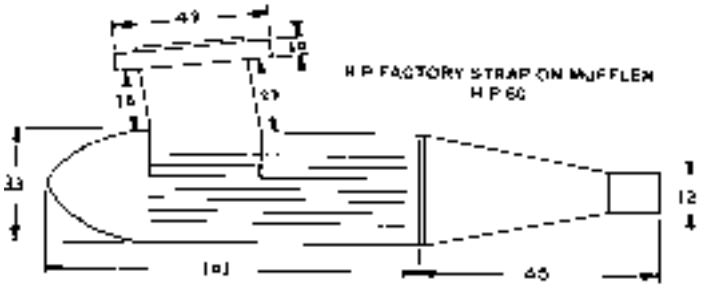
Do you have or know of someone who has plans for a bendix model?

Brian Gardner bgardner@hatch.com.au

Muffler, H.P. Factory Strap on for H.P. 60 as per diagram shown below.

Frank McPherson (03) 9775 7698

or Email f_mcpherson@bigpond.com



Newsletter Editor
Harry Bailey.
37 Thompson Street.
Clayton.
VICTORIA. 3168.
Telephone (03) 9543 2259.

For Sale

Modified "Shark" stunter.
Suit .50 -.60 motor. $200 ono
"Klassique" Stunter $200 ono
(Suitable motor for "Klassique" available if required)

Call Ken Taylor (03) 9738 0525

"Wife says sell something to pay for eBay purchases", so-
Untouched,Reg Leece hand-cut kit of "Coy Lady",Fox 35 40th Anniversary(NIB with spinner),NIB Fox 25 with stunt venturi,and NIB Arne Hende replica Amco 3.5 BB diesel.

$500 the lot,

Will not separate (yes,I know most modellers are tightwads,but this lot cost ME around $750!)

Phone BOB ALLAN on 0351455548 AH,
or Email me at bobshirl@bigpond.com

ENGINE SALE
A large number of NIB glow, spark and diesel engines suitable for C/L or collecting. Lists available from:

DAVID OWEN, PO Box 1739, Wollongong NSW 2500
Phone 02-4227 2699
or email <owendc@1earth.net>

Model Racing Services "Arrow .21" Speed kit
Comes with alloy pan $ 50.
Ph Ron (03) 85012814

OSCZ11 MRS tuned in VGC Mini Goodyear.
Like new. $395
Two CLASS 2 airframes. Will fit Nelson 29, Super Tigre etc $150 each

Mark McDermott
(07) 3288 9263

A.C.L.N. ADVERTISING

For the newer readers. we point out that "private" (personal) ads are free to subscribers, and "commercial" ads are $20 per quarter page, or $5 for business card size. Commercial Advertisers can receive a free business card size ad for submitting original articles of interest to A.C.L.N. readers.

Copy or artwork for ads should be sent to the editor, cheques to the treasurer (G Wilson P.O. Box 298 Seaford, Vic 3198); If you want to save a stamp, I can forward on any cheques sent with ads but please make them payable to "Control Line Advisory Committee"

AUSTRALIAN CONTROL LINE NEWS
If undeliverable return to:-
G. WILSON
P. O. BOX 298
SEAFORD VIC 3198

SURFACE MAIL

Subscribers to ACLN can have the latest edition of the newsletter emailed to them as a PDF file at no extra charge.

Simply send a request for this service to the editors' email address which is on the front page.