

MARCH-APRIL 2008

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STUNT NEWS

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MARCH-APRIL 2008

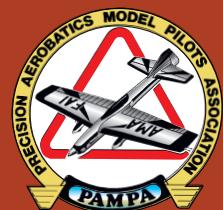


Inside this issue of Stunt News:

- More 2008 NATs Information
- More R.G. Moulton on Aerobatics
- US FAI F2B Team Support
- T. Michael Jennings Chart Correction
- Don Shulz and his Avenger
- Frank Carlisle's Trim Tab
- Bob Emmett
- Robe Rudder by Trostle
- Don Ogren again
- "Why I Fly Stunt"
- And More...

Bob Gieseke at the NATs in an unguarded moment. The consummate Sportsman and Gentleman. Who is the team behind him? It isn't Fancher. Photo by Jack Sheeks.

- Featured in this month's *The Trailing Edge*



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INSIDE THIS ISSUE of STUNT NEWS:

| | |
|---|----|
| Special Features | |
| NATs Information..... | 3 |
| Ron G. Moulton Aerobatics part 2 of 3 | 4 |
| T.Michael Jennings Correction..... | 9 |
| Officer Reports | |
| Editor's Report..... | 10 |
| President..... | 11 |
| Vice President | 13 |
| Secretary/Treasurer | 14 |
| Outbound Secretary/Treasurer | 14 |
| Director Reports | |
| District 1..... | 16 |
| District 2..... | 17 |
| District 3..... | 17 |
| District 4..... | 21 |
| District 5..... | 22 |
| District 6..... | 24 |
| District 7..... | 27 |
| District 8..... | 30 |
| District 9..... | 32 |
| District 10..... | 33 |
| District 11..... | 37 |
| Contest Calendar | 42 |
| Contest Reports | 46 |
| Features | |
| 35 Stunter Stats | 55 |
| Don Shultz's Avenger..... | 57 |
| Bob Emmett's "Miss Chevy" | 59 |
| Frank Carlisle's Trim Tab..... | 60 |
| Don Ogren's Tank | 61 |
| Don Ogren's Zero..... | 62 |
| Keith Trostle's "Rabe Rudder" | 63 |
| Columns | |
| Ask Ken | 66 |
| Beginnings..... | 67 |
| Building | 69 |
| Classic Plans..... | 72 |
| Clubs | 74 |
| Designing | 75 |
| Electric Flight..... | 79 |

(index continued next page)

INDEX TO ADVERTISERS

| | |
|-----------------------------|------------|
| Aero Pipes..... | 58 |
| Aero Products | 19 |
| Alberto Parra | 60 |
| Al Rabe's Home Movies | 23 |
| Blue Sky Models | 23 |
| Control Line Central | 55 |
| CF Slattery | 47 |
| The Corehouse..... | 32 |
| Doctor Diesel..... | 36 |
| FAI..... | 12, 44, 80 |
| Flying Models Magazine..... | 26 |
| FM VSC XX | 28, 71 |
| Horizon Hobbies..... | Rear Cover |
| Lee Machine Shop | 16 |
| PAMPA | 33, 82 |
| RGGraphix..... | 23 |
| RSM..... | 30 |
| Sam's Stuff & Hobbies..... | 9 |
| T & L Specialties..... | 21 |
| Virginia Hobby Sport | 17 |
| Windy Urtnowski | 11 |

In this month's centerfold:

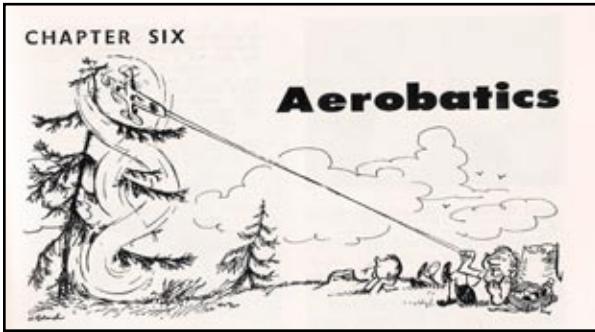
1 "SURPRISE!" 16" x 20" oil and ink on canvas by Mike Keville. Gordan Delaney's 'Gemini' twin, commissioned by his wife Sandy as a surprise Christmas gift, December 2007.

2 Spectacular twin-engined Stunter by Gordan Delaney. "Two Much" a name which adequately describes this beautiful Controlline original. Shot at the 16th Southwest Regionals at Buckeye, Arizona by Dale Willoughby. Took 3rd, 1059 sq. inches, 76" span, 4 1/2 lbs. Fox .29 in outboard nacelle, Fox .35 inboard. Utah State Aeromodellers. Unusually clean, able aircraft.

Cover Photo: Bob Gieseke and namesake Nobler. Behind him we see David Fitzgerald (dark shirt) and Bill Fitzgerald. Photo by Jack Sheeks.



MARCH - APRIL 2008



Ron G. Moulton's Aerobatics Part 2 of 3 - Page 4



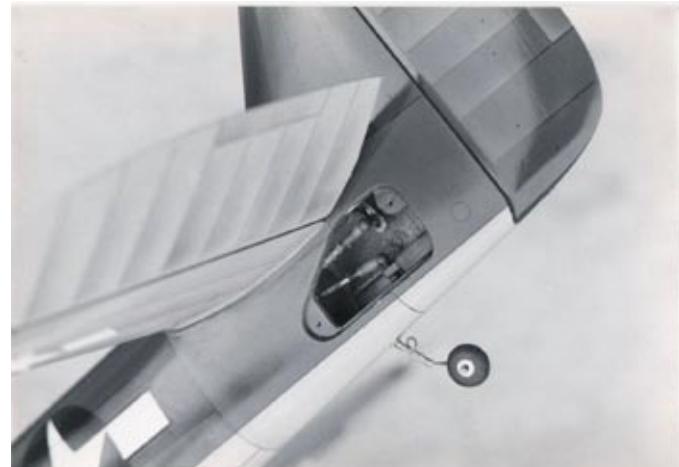
Transfer of the Sacred Scrolls! - page 14



The importance of safety - page 83



| | |
|-----------------------------------|----|
| PAMPA Rules | 81 |
| Repairs | 82 |
| Safety | 83 |
| The Lighter Side | 85 |
| The Trailing Edge | 85 |
| We Have the Technology | 87 |
| Why I Fly Stunt..... | 88 |
| International | |
| Grand Canaria | 90 |
| United Kingdom..... | 93 |
| License Plate Quiz Answers | 94 |
| PAMPA Products Price List | 95 |
| PAMPA Products Ordering Form..... | 96 |
| PAMPA Membership Form..... | 97 |
| Disclaimer Page | 98 |



Keith Trostle's Rabe Rudder - page 63



2008 AMA Control Line Aerobatics National Championships

July 13 – 18, 2008

Sunday, July 13

| | | |
|------------|---|----------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Beginner & Intermediate Stunt Registration* | Grass Circles |
| 8:30 a.m. | Beginner & Intermediate Stunt Pilots Meeting* | Grass Circles |
| 9:00 a.m. | Beginner & Intermediate Stunt Event* | Grass Circles |
| 12:00 noon | Old Time and Classic Stunt Registration* | L-Pad Pavilion |
| 12:00 noon | Jr., Sr., Open, and Advanced entries close | Nats Headquarters |
| 2:30 p.m. | Jr., Sr., Open, and Advanced Models Presented for Appearance Judging | 180 Building |
| 3:00 p.m. | Pilots' meeting/Forum | 180 Building |
| 4:30 p.m. | Concours Voting | 180 Building |
| 6:30 p.m. | Judges' Seminar Review | TBD |

Monday, July 14

| | | |
|-----------|---|----------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Old Time & Classic Stunt Events Pilots Meeting* | Grass Circles |
| 8:30 a.m. | Old Time & Classic Stunt Events* | Grass Circles |
| 9:00 a.m. | Judges' Seminar Phase II (Flight) | L-Pad Circle 4 |
| 6:00 p.m. | Judges' Seminar Review | TBD |

Tuesday, July 15

| | | |
|-----------|---|----------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Jr., Sr., Open, and Advanced Qualifications Rounds 1 & 2 | L-Pad |

Wednesday, July 16

| | | |
|-----------|---|----------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Jr., Sr., Open, and Advanced Qualifications Rounds 3 & 4 | L-Pad |

Thursday, July 17

| | | |
|-----------|--|----------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Open Top 20 | L-Pad |
| 8:00 a.m. | Advanced Finals | L-Pad |

Friday, July 18

| | | |
|------------|--|------------------------|
| 6:30 a.m. | Control Line Precision Aerobatics Practice | L-Pad, Grass Circles |
| 8:00 a.m. | Open Finals | L-Pad Circle of choice |
| 11:00 a.m. | Walker Cup Fly-off | L-Pad Circle of choice |
| 6:00 p.m. | PAMPA Reception | Horizon Center |
| 7:00 p.m. | PAMPA Banquet | Horizon Center |

***Unofficial Event**

If you are flying only unofficial events, you must register with NATs headquarters as a mechanic



CHAPTER SIX



Part 2 of 3

Over the years, two designers have developed their individual approaches and have influenced stunt model design throughout the world. They are Bob Palmer and George Aldrich who have each held the Stunt Championship Honours in the United States in the course of their fascinating modeling careers.

Bob Palmer's most famous design is the Thunderbird (Figs. 79, 80) and in this one model there are numerous design details which can be directly attributed to Bob as either inventor, or first to recognize the potentialities of the feature. The asymmetric wing, cleverly disguised in a beautiful elliptic platform. The wing flaps, the baffle tank with unusual venting. Flexible lead-out wires, swept back

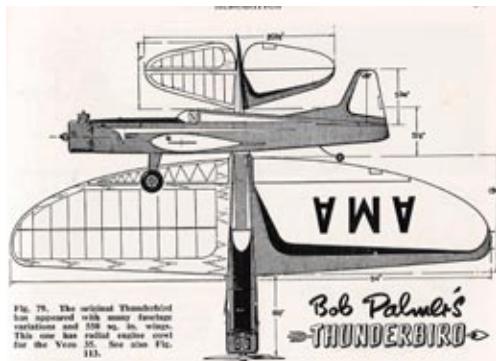


Fig. 79. The original *Thaumothrix* has appeared with many fascicule variations and 558 sp. in wings. This one has radial fascicles and for the Vene M. See also Fig. 13.

and brought together at the tip. Large elevator and flap movement ranges and asymmetric flap movement, this to keep line tension. Low wing and power loading of 8-10 ounces per square foot of total area and 6 ounces

Aerobatics

have pointed out, will open the loop radius) George Aldrich stipulates very large flap movement, equal in fact to that arranged for the elevator.

In order to fully appreciate all the thought that has gone into these two designers' series of so successful models, we have to go back to the early 1950's when the initial set of rules and regulations were beginning to be found inadequate and introduction of stringent manoeuvre requirements began to demand more careful thought on design, as well as greater dexterity on the part of the pilot.

The British approach, with fast flying models, called for quicker reactions than necessary with large American designs. When they reigned

per c.c. of engine capacity. Above all, a designed structure to incorporate these features without adding weight, and with a thick, large leading edge radius

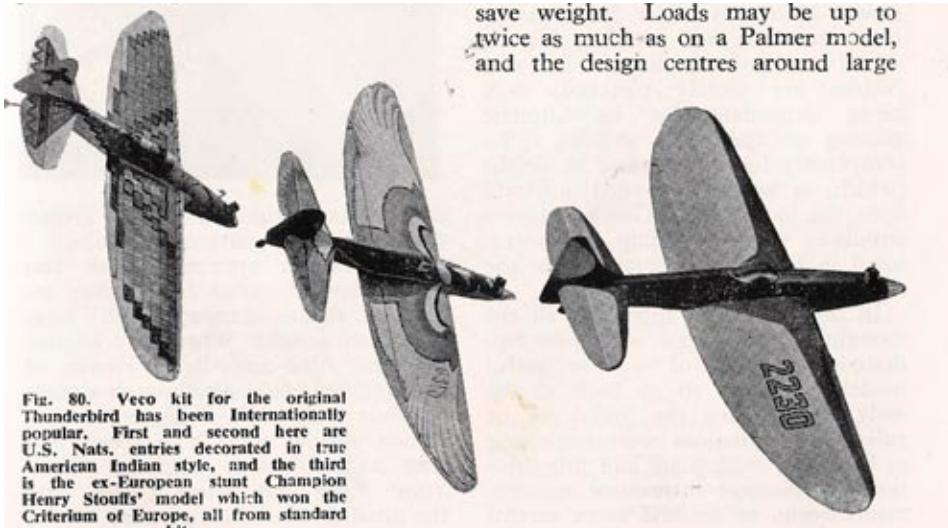


FIG. 80. Veco kit for the original Thunderbird has been internationally popular. First and second here are U.S. Nats. entries decorated in true American Indian style, and the third is the ex-European stunt Champion Henry Stoof's model which won the Criterium of Europe, all from standard kits.

wing section that has a low stalling speed.

On the other hand, the George Aldrich system denies the need to save weight. Loads may be up to twice as much as on a Palmer model, and the design centres around large area straight tapered, thick wings and a deep, thin section fuselage. This hefty side profile (Keel surface) of the Nobler (Figs. 81, 82) one of the longest established favourites of stunt fliers all over the world, is a great aid to keeping lines taut in windy weather. Many maintain that the weightier and slower Nobler is better for typically turbulent European weather, but in actual competition, the T'bird and Nobler are closely matched, each being dependent for its ultimate placing on the flier's abilities. To compensate for the increase in weight (which, as we

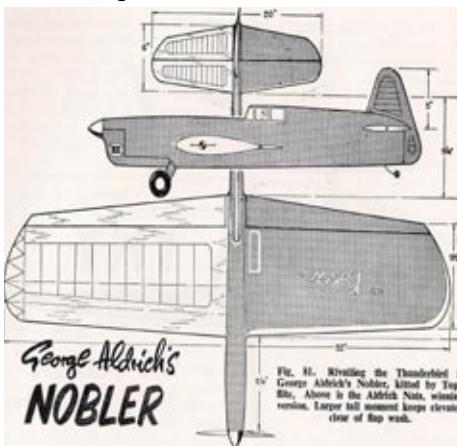


Fig. 8. Rivalling the Thunderbird is George Aldrich's Nobler, fitted by Top-Brite. Above is the Aldrich Nas, winning version. Large tail moment keeps elevator clear of flap wash.

Fig. 82. Below is Louis Gronda's Nobler from a Topflite kit which won Criterium of Europe in 1959 and World Championship in 1960, using Fox 35 engine.



they relied to a large extent on high speed. A move was made by Henry J. Nicholls with the kitted Monitor and Musketeer to provide a slower model with good level flight stability and the capability of abrupt turns and small loops; but apart from these notable efforts, and a few individual creations in the style of Jim Saftig's Zilch series (Figs. 83, 84), design effort in Britain was either limited to the quickly

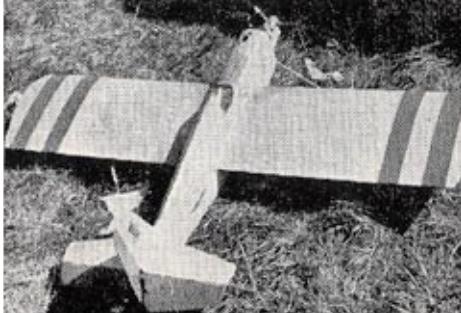
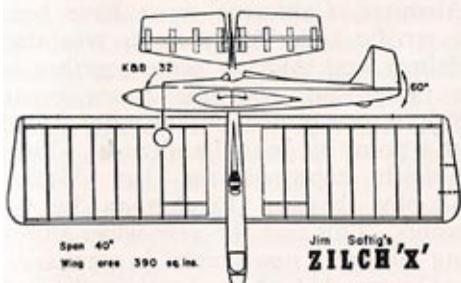


Fig. 83. With a Super Cyclone coil ignition engine, Jim Saftig Zilch established the larger and lighter stunt designs as the right approach in the early '50's. The one shown here is one of many flown by Fred Guest.

built box car type, or was subject to transatlantic influence.

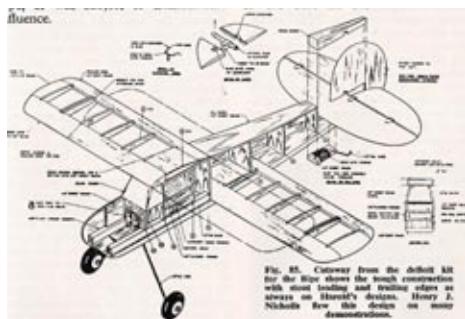
Harold deBolt derives a great deal of credit for his commercial enterprise

Fig. 84. Simplified variant for kitting was the Zilch-Expendable, also intended for combat.



in pushing his Biplane (Figs. 85, 86) and All-American (Figs. 87, 88) kits to the fore in the eastern States. Harold produced an ideally stable setup in

the biplane arrangement, where the lower, staggered wing was set at negative incidence. The "Bipe" could, and often was, flown blindfold by the author, and for roundness of loops and thrilling landings it was hard to beat. But it could not match the larger monoplanes in serious competition, although for sheer fun in control-line flying, we have always found any of Harold deBolt's kit designs the most satisfying one could buy. Harold has the eye for simplicity, which is so necessary for any commercial



project, and yet produces models with attractive appearance and great strength in structure. He was also a pioneer of speed model design, as we shall discuss in the next chapter. While it would be grossly unfair to say that, apart from Palmer and Aldrich, these

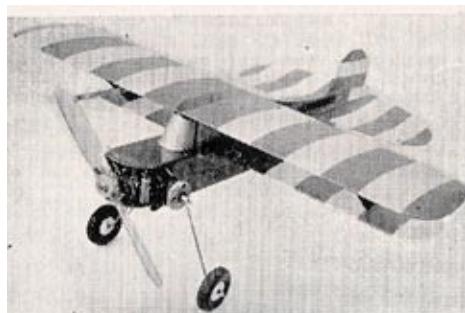


Fig. 86. Harold deBolt's Bipe was a great flier, fast and always tight on the lines though not able to execute tight radius aerobatics. With a Madewell 49, it was a most satisfying model to fly.

other personalities were the only ones of any real consequence in stunt design during the vital early 1950's, the number of successful individual designers who illustrated confidence by sticking to their own particular planform for more than one season, were as scarce as balsa trees in Alaska.

The great American National Championships of 1952, held at Los

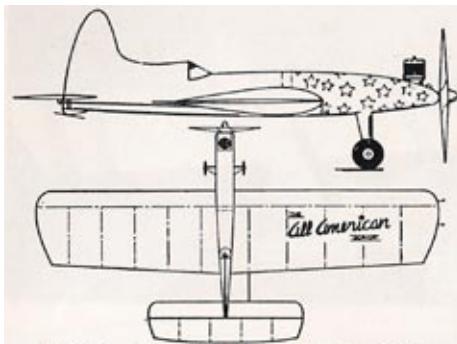


Fig. 87. From the Bipe, Harold deBolt maintained short tail moment but increased wing area in the monoplane All-American series. Note arrangement for clockwise rotation.

Alamitos, California must have been a terrific sight for there it was that Palmer and Aldrich came together in a photo-finish for the Stunt event, Palmer was nosed out by only 2/3rd of a point by John Lenderman. The Aldrich captured the Jim Walker Trophy, beating Lenderman by 15 points. This was the year when stunting reached a new "high" in standards.

George Aldrich had originally met Palmer at the 1949 Nationals, and has always attributed his skills to the practical lessons he learned through contact with maestro Bob. In 1950, George placed fourth in the National, and he was certain that lack of stability when flying in wind was the real handicap. In consequence he set himself the task of designing a model that would perform in all weathers, retain good appearance and be smooth in flight. The result was the beginning of the Nobler series.

This had a straight taper wing with full span flaps, also having a taper towards the tips, and interconnected to the elevator so that the full range of movement was 20 degree each way on the flaps and 45 degree each way on the elevators. To avoid warps and obtain wing rigidity, the mainspar was full depth, with egg-box type joints at each rib, and as the leading edge was also sheeted in back to the spar, the resulting D section nose on the wing



was immensely strong. For this, a weight penalty of about 3 to 4 ounces over standard construction had to be accepted: but it was easily absorbed with the high power available in the



Fig. 89. Guitarist Joe Deniz and Cyril Shaw of Shawcraft with first model seen in Britain with wing flaps, covering only the length of the tailspan. Nordec 10 c.c. engine.

then new stunt engines, as for example the Fox 35. Aldrich also described in 1952, for the first time seen in print, the American technique of accomplishing the square pull-outs on wingovers, and the completely square loop. In brief, this was to give a sharp jerk of the wrist as the 90 degree change of direction was required: but it was found to be not quite so simple as that!

The author finds that at no time while he is flying control-line is his handle in the supposed upright position. Consequently, the relationship of the handle to the model is constantly changing. In level flight, rotating anti-clockwise, the handle is inclined so that the top ("up" line) leads and the handle is about 45 degree. This is quite a natural attitude, and many modelers adopt the same stance, etc. For inverted, the handle is the other way about, at 45 degree angle, following the model in clockwise direction. In loops the author tends to "stir" the handle as the arm swings around.

Now, for a square pull-out, one must be positively conscious of what angle the handle is being held, for the simple reason that to get a square pull-out with full range of control surface motion, one must apply all tension on the appropriate control-line in a split second and do so with wrist action. Thus, if flying as the author does, with "up" line leading in level flight, and the model being set into a dive from high level for a practice square pull-out, the hand should be twisted

and the arm brought back against the direction of flight with rapid action to get the desired result. So for a square inside loop the pilot executes a series of chopping actions back across his body. The forearm is swung, almost in sympathy, but the real control action comes in the wrist and hand. For square outside loops the same applies the other way around.

There is no denying that this technique demands skill and lots of practice. For more than eight years, George Aldrich has advocated daily flying, or at least fifty flights per week to keep in form. This was also borne out by Bob Palmer who personally demonstrated multiple square loops by the same method to British modelers at Woburn Park in 1957, and told us at the same time that to be able to execute continuous square figure eight manœuvres, one had to practice

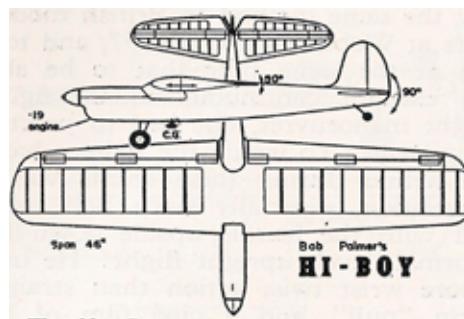


Fig. 90. Large airframe for small engine and high wing position make this an unusual approach.

regularly. To watch the Palmer hand in action during these stunts was a revelation, especially since Bob starts off with the handle upside down for normal, level, upright flight! He uses more wrist twist action than straight arm "pull", and a cine film of his forearm gives the impression that he was trying to jerk something free from his lines rather than controlling a model! What is happening is that the sudden full flap/elevator action is sufficiently powerful to change the direction of flight abruptly, without stalling the model. Aldrich actually increased the range of Nobler's flap action to equal that of the elevator, and with full span action, the results in competitions have spoken for themselves. But the Nobler, at anything up to three pounds weight, is a relatively heavy design, as intended, for all-weather action. Consequently, it really requires the large range of

flap movement to compensate for the increased centrifugal force in loops, etc., and longer tail moment. We have already discussed how flaps give a good lift component, but when Bob Palmer first recognized the possibilities of using them, he had a slightly different approach to their usefulness (Fig. 89).

Bob used the flap (on a Veco Chief) in 1949 to demonstrate how power was not the criterion for stunt flying and in the model normally equipped with a 29 (5 c.c.) he used a .19 (3.25 c.c.) with no loss of performance. The lighter power loading gave slower flight, and without wind hazards, the model was fully controllable. Bob then advised a model of about 525 square inches wing area for 5 c.c. to fly at 60 m.p.h., and weigh 38 ounces. The same figures are still advisable for a good stunt design.

Blunt leading edge sections of about 15 per cent thickness replaced the earlier, sharp leading edges when Palmer and Aldrich came to the fore, and because of the flaps, both designers departed from the traditional all-symmetrical layout of having wing and tail on the same datum line (usually the thrust line, to give same action for upright and inverted flight) by pushing the tailplane and elevator higher up the fuselage (Figs. 90, 91). This cleared the flap wash, more in inside loops than for outside loops, and gave smoother change of attitude. Designers who find that a flapped model will inside loop quite tightly yet almost refuses to outside loop will probably be suffering from this flap wash effect, and will have

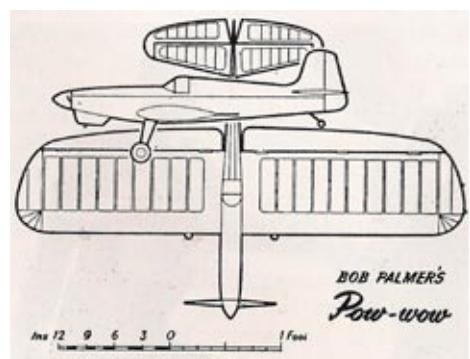


Fig. 91. Forerunner of the Thunderbird, the Pow-wow illustrates how Palmer listed the tailplane out of flap wash from the wing.

to reduce flap chord for the tail span length at least, as a quick remedy.

Another strongly emphasized point, often repeated by Palmer and Aldrich



was that of control point bearings. By this we mean the connections of the various push rods and lead-out wires to the bellcrank and horns. Stout wire pushrods are always advised and the best bearing for a horn is a length of brass tube set through it in the case of light alloy horns, or if steel is employed, as advised for larger models, slip two short pieces of tube over the wire on either side of its entry through the horn

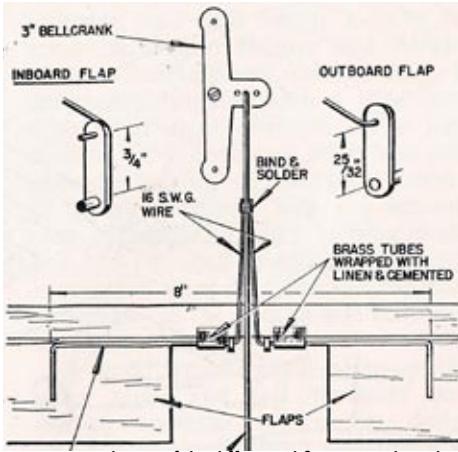


Fig. 92. Mechanics of the differential flap system by Bob Palmer. Inboard flap moves through greater range.

and this will stop side friction as well as help to hold a quantity of petroleum jelly there permanently for lubricant.

Control freedom is critical for top performance. Should the lines ever go slack the model will depend on a sensitive touch of control to keep it under full control, so be sure that those elevators will flop under their own weight! Of course, they may be balanced out by the flaps, or the flexible lead-out wires may catch in the rib holes when the model is at rest. These are matters for the discretion of the modeller who should satisfy himself that controls are free moving.

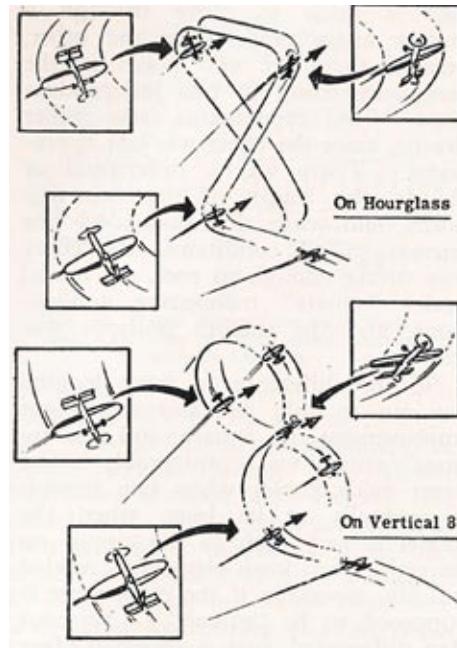
How much flap and elevator control surface do we need for good control? George Aldrich advises full span flaps of 15 per cent total wing area which in the case of Nobler is 550 square inches. For the horizontal tail surfaces, use about 17 per cent of the wing area, with the elevator slightly less than half the total tail surface. Rudder, or we should say, fin area is not critical if the fuselage keel surface aft of the wings is ample, but eight per cent of the total wing area should be enough to keep the lines tight if offset 3

degree against the line of flight. Wing taper is advised to avoid buffeting, and to get better lift distribution; with the inboard panel one rib bay (about 2") longer than the outer, for reasons already explained (to support the line weight and give extra lift for line tension).

Nose length forward of the leading edge on the wing could be equal to the gap between the wing and the tailplane (about 8" on a 550 sq. in. model for 5 c.c. to 6 c.c. engines (and the centre of gravity, with tank filled ready for flight, about 25 per cent of the wing root chord, but these are not critical figures.

Apart from the wing flaps, and his elliptical wing planform, Bob Palmer's basic specification is much the same. Bob does not believe in fullspan flaps, in any case, to get a straight hinge line across the wing on his designs with their curved trailing edges, it is not possible. He uses about 10 per cent flap area and is currently employing an ingenious asymmetric flap action, on a 610 square inch wing.

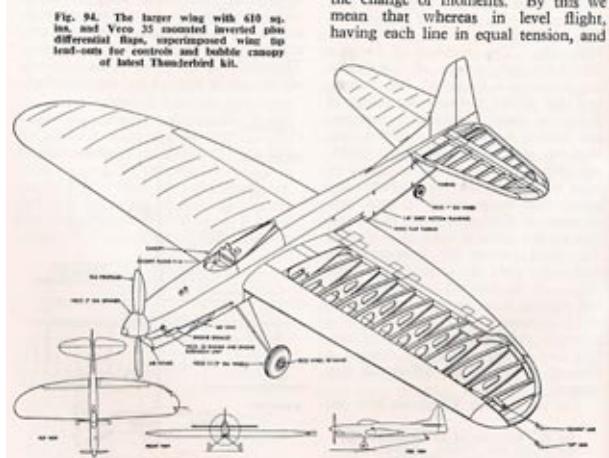
This was one of several new



features on his winning version of Thunderbird at the 1959 U.S. Nationals. The problem of keeping the lines tight under all conditions and attitudes is

universal. Bob Palmer had the rather unusual handicap of flying in calm Californian weather, and having no wind to maintain tension in, say, a

Fig. 94. The larger wing with 610 sq. in. and Vero 25 mounted inverted pins differential flaps, springing wire up lead-outs for controls and bubble canopy of latest Thunderbird kit.



vertical figure eight, can demand a very high standard of pilot technique. He had already used asymmetric wings which in turn, give asymmetric flap area with the larger flap on the inboard wing half. He had also tried having the inboard wing flap wider than the other to get more lift out of the inboard panel in stunts: but rejected it on the score of its awkward appearance. The current, and certainly most successful way of getting flap action to aid line tension is through Bob Palmer's differential flap control.

The sketch (Fig. 92) shows how one flap is made to move through a greater angle range than the other, because there are two horns in the aeroplane, going to two independent flaps. First experiments were rather drastic, since the effect was not appreciated. There was a differential of $3/32"$ in the length of the two flap horns, and while this gave ideal line tension in all conditions, the effect was strong enough to rock the model under "square" manoeuvre applications, and the smooth pull-out was lost.

So the difference in horn lengths was cut to only $1/32"$, and subsequent improvement in square and "hourglass" stunts was considerable. The great value come when line tension is normally at its least, when the model is very high in the circuit on an eight, and down elevator is needed quickly, especially if the manoeuvre is supposed to be "square". Without flap differential, such a situation often



results in the model being upset, and the shape of the stunt is spoiled. With differential, the inner wing is constantly pulling up during any control action. The dimensions quoted are exactly those used on Bob's winning Thunderbird, and

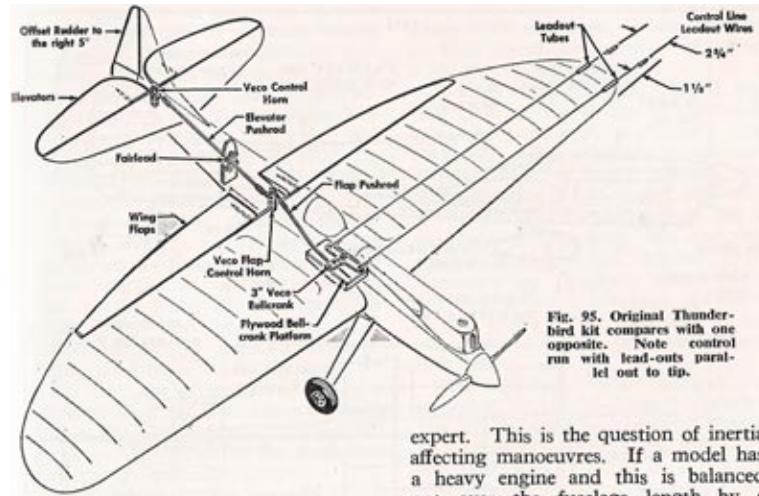


Fig. 95. Original Thunderbird kit compares with one opposite. Note control run with lead-outs parallel out to tip.

expert. This is the question of inertia affecting manoeuvres. If a model has a heavy engine and this is balanced out over the fuselage length by a

the same control set-up can be advised for any model of comparable size. Wire thicknesses are fairly critical to get positive control action without "whip", and evidence of the advantage of flap differential is contained in the claim to no less than twelve consecutive "hourglass" figures by Bob and the "T" bird (Fig. 93).

Another control innovation on this 1959 version of the design first kitted by Veco in 1955 (Fig. 94), was for the two lead-out wires to be brought close together at the wing tip. This was a result of changes in yaw, experienced when the triangular shaped stunts joined the schedule. For a full 120 degree change of direction, the sudden increase of tension on one of the two control-lines can cause an "out" or "in" swing of the nose of the model since the two lines rarely line-up with the centre of gravity. As it is usual to have the centre of gravity nearer to the front line connection on the bellcrank, and this line is the "down" line in most cases, it is during any application of "up" elevator that the nose will yaw outwards more, due to the change of moments. By this we mean that whereas in level flight, having each line in equal tension, and the common connecting point (the bellcrank pivot) slightly aft of the C.G., we can use the outward yaw to keep the nose out and the lines tight. When the load is shifted to the rear line only, the yaw is increased considerably as the C.G. will then be as much as three inches ahead of the connecting point, and combined with the engine offset which will be pulling the nose outwards, the model is temporarily thrown "off-balance" until line tension is resumed (Fig. 95). The Palmer method of alleviating such a situation is now to bring the lines close together at the tip, having unequal length lead-out wires and control-line wires to avoid the connections from snagging. To get the lead-out line angles use a little more than normal sweep back on the front line (about 3-5 degree), and bring the rear line forward to meet it at the extreme tip. This offers the best arrangement for smooth flying, and provided that good care is taken of the lines and connections, the old bogey of line jamming should not occur.

There is one other vital point in aerobatic model design which tends to be overlooked by all except the most expert. This is the question of inertia affecting manoeuvres. If a model has a heavy engine and this is balanced out over the fuselage length by a heavy tail unit, the model has far less chance of success in competition than a model with light extremities. We sum this up by saying that if the moments of inertia are increased, manoeuvrability is decreased. By this, one can also appreciate that long noses and tails only help to open out the looping radius. Thus, if one has a heavy engine, shorten the nose moment, and still retain a light tail structure. Both Palmer and Aldrich utilize a built-up tail unit, so don't be tempted to replace such a wise move with solid sheet surfaces on a large model. Of course, one must also concede the fact that a reasonable amount of balanced inertia aids the smoothness of both level and looping flight, and as we shall discuss under techniques for aerobatics, we use the effect of inertia on the fuel to our advantage in several ways. A good general rule is to employ short noses and tail moments on a snappy sportster or combat design, and a nose length about two-thirds the wing root chord, with the same distance between wing trailing edge and tail leading edge, for a smooth stunter (Fig. 96).

The question of where to allocate the Centre of Gravity

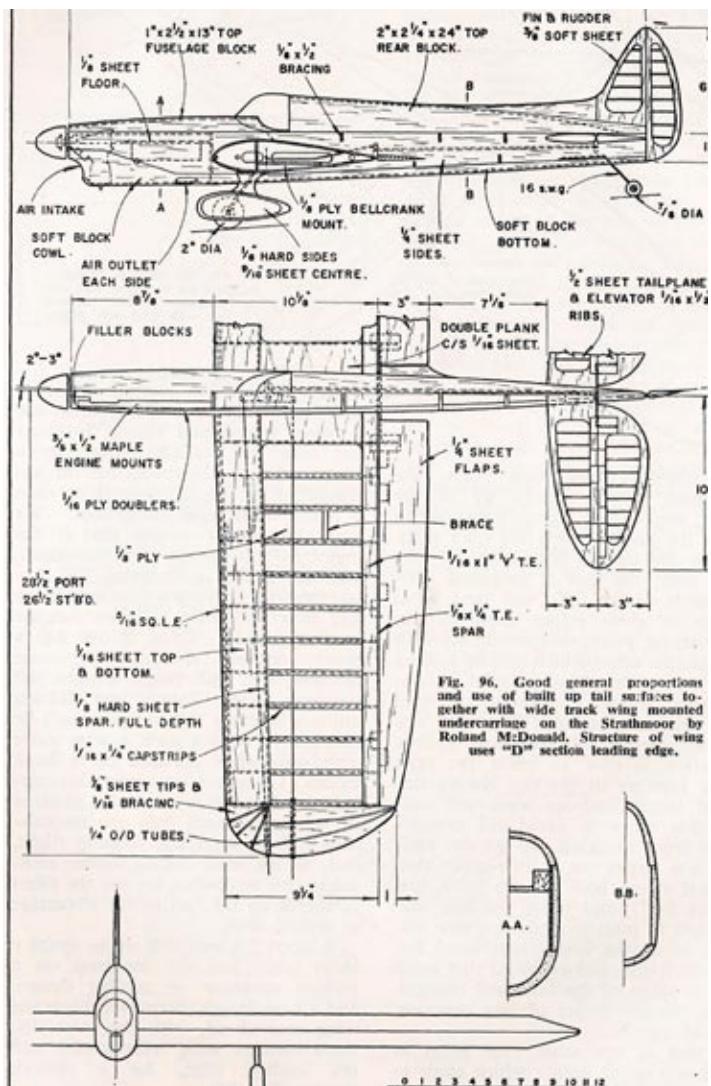


Fig. 96. Good general proportions and use of built up tail surfaces together with wide track wing mounted undercarriage on the Strathmoor by Roland M'Donald. Structure of wing uses $\frac{1}{2}$ " \times $\frac{1}{2}$ " \times $\frac{1}{2}$ " section, leading edge.

depends largely on personal flying technique and preference. On a flapped design, if we have a forward C.G. (say at 10 per cent wing root chord), the changes of lift cause through the flap action and the attitude of the model are relatively aft, and a nose down moment occurs more rapidly than nose up. So if the flier prefers smaller, or safer, outside loops he should see that the C.G. is well forward. Conversely, for smaller inside loop radius, a rearward C.G., close to the bellcrank pivot point is desired: but this brings with it a special demand for careful piloting in windy conditions. The figure of 25 to 30 per cent wing root chord is a common one for the balance point, and in the vast majority of cases this is on, or slightly aft of the front line connection to the bellcrank. Now that we have a fair idea of the aerodynamic needs of a fully

aerobatic model, we should give equally serious thought to the subject of fuel tanks and feed to the engine.



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CORRECTION:

Stunt News; July/August 2007; Page 87; Control Line Model Design Analysis by T Michael Jennings; Control Line Model Comparison.

There is an error in the Control Line Model Comparison table in the article. Please use following table. The author made an error in Control Parameter calculation of the spreadsheet. Because of the correction, the listing of Model Names are reshuffled.

My thanks for identifying this error goes to Mr. Charles Buffalano of Kensington, MD. Charles is an astute engineer/mathematician/observer. I apologize for not having adequate peer review for this article.

Control Line Model
Comparison

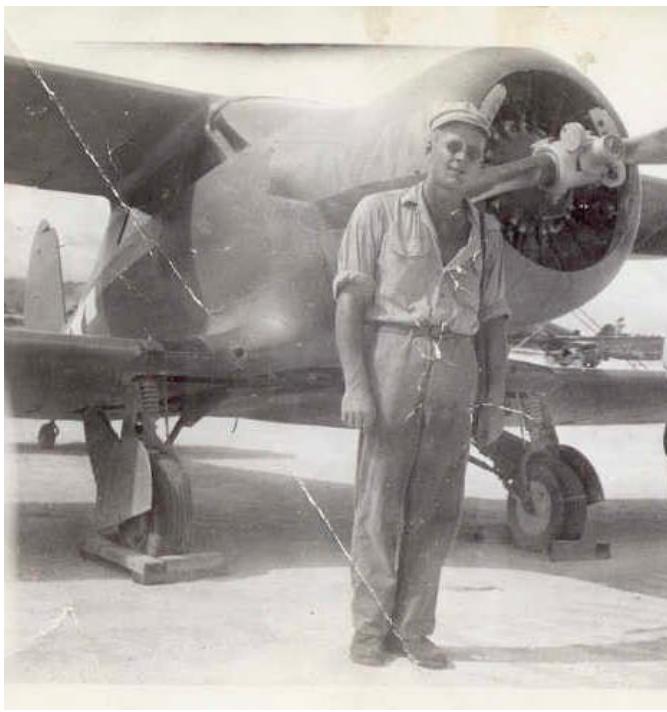
| Model Name | Model Designer | Control Parameter | Stability Parameter |
|----------------------|--------------------|-------------------|---------------------|
| 1. Stiletto | Les Mc Donald | 0.551 | 0.650 |
| 2. Heinkel He-100 | Jack Sheeks | 0.489 | 0.570 |
| 3. Genesis 1 | Bob Hunt | 0.487 | 0.586 |
| 4. Excitation | Ted Fancher | 0.439 | 0.509 |
| 5. Super Chipmunk | Mike Stott | 0.418 | 0.508 |
| 6. Nobler | George Aldrich | 0.404 | 0.497 |
| 7. Mustang-SIG | Mike Gretz | 0.398 | 0.500 |
| 8. Mustang P-51 | Al Meyers | 0.396 | 0.500 |
| 9. Twister | Ted Fancher | 0.373 | 0.447 |
| 10. Thunderbolt P-47 | Charles Parrot | 0.368 | 0.432 |
| 11. Illegal 1* | T Michael Jennings | 0.349 | 0.415 |
| 12. Twister | Mike Gretz | 0.327 | 0.405 |
| 13. Magician** | J. Silhavy | 0.262 | 0.262 |

* Norm Whittle's Eagle design with Ted Fancher's Imitation wing.

** Non-Flapped Design

- T Michael Jennings





Henry McClain, 1944, South Pacific, Biak Island.

It is January 19, 2008 and I am on the descent into Chicago O'Hare airport on my way to South Bend, Indiana to meet my youngest brother Dick, and then on to meet the greatest hero of my life, my father, Henry McClain. I got a phone call today from my sister, Dana, and younger brother, Jim. They had just been to see Dad at Three Rivers Hospital in Three Rivers, Michigan, who is there because of a stroke he had two weeks ago. Dana and Jim met my older brother, John, to visit Dad. Jim told me Dad was not doing well and that John thought I should come home, just in case. Amazing how other things shrink into insignificance when family calls.

Earlier I had met up with the CACLC crowd, Jim Hoffman, Ken Gulliford, Lee Black, Nick Lemack, Gary Gingrich, and Mark Smith to do some flying at the new field in Avondale, Arizona. I had the lines out, the plane fueled up, all of the equipment ready to go out to the circle, when Dana and Jim called. Needless to say, all thought of flying left my mind. I walked over to the Avondale sports pavilion to collect my thoughts, made up my mind to go home and see my Dad, maybe for the last time. I rolled up my lines, defueled, ran the prime and fuel out of the engine, loaded up the van, and said goodbye to the gang. They understood and wished me a safe

Editor's Report

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trip. Great friends are such as these.

On the way home, I called my wife, Sheryl, and set the process in operation. She found the needed reservations online, confirmed them, and then I called my brothers and sister and told them I would be there in South Bend, IN, by 11:30 PM to stay with Dick and his family. Tomorrow I see Dad.

What can I say about my father? Thankfully, I have said it all to others and to him before. So, this may be the final "goodbye," "I love you Dad" and "I am proud that the Lord gave me a Godly man like you for my father." Henry McClain's legacy is well intact.

Henry McClain was born in 1918 in a home on the St. Joseph River in Leonidas, Michigan. He was the third child of Charles Henry Becker and Martha Wrench. Dad lost his father in infancy. But my grandmother married Mr. McClain soon after and had six more children. For some reason, Dad was the leader of the McClain clan at a young age. This was always a mystery to me, but it was a fact. His older sister and brother, Ann and Charley, always deferred to his leadership. Later in life, we all deferred to his leadership. He had earned it. We knew why. And now we faced the prospect that the leader we loved was possibly saying goodbye.

Dad was asleep when Dick and I arrived. We woke him up and tried to talk with him. He was tired and unable to respond. Later he did awake and I showed him his great grandson, Henry, in pictures that my son, Daniel, had sent by email. Sometimes laptop computers have better uses than work. Now my wife's laptop was doubling as a slideshow and Dad enjoyed it very much. We didn't talk much other than to acknowledge we loved each other and he was frustrated by his weakness and inability to talk except for single

words. But he was there, alert, and he knew we all loved him. All of us kids had come. Dana, John, me, Jim, and Dick and Mom was there with us too. Some of the extended family was in the room and Dad knew us all.

My brothers and sister were surprised that I had come so soon, but now that I was there, we were a family again and all the pieces of the puzzle were in place. We later went to Jim's home and Jim and his wife, Mary, went out and brought back some KFC and we spent the next three hours telling Dad stories and enjoying each other's company. We agreed to stay in touch and have family get-togethers every 3 to 4 years so as to not lose touch. Later, I went home with Mom and Dana and slept in my old bedroom. Mom, Dana and I talked. Dana and I watched the AFC and NFC Championship games and marveled at the brutal field conditions in New England and Green Bay and the efforts put out by the players.

In the morning, Dana and I said "goodbye" to Mom and left for the hospital to see Dad one more time before I flew back to Arizona. Dad was awake and again we reviewed the latest photos on my wife's laptop of his great grandson. We talked and he said my name. It was enough. Later the physical therapists came in and worked him over so much that they tired him out and he slept. We could not wake him to say "goodbye." Dana took me to South Bend airport and I went home.

Since then, Dad has improved much. He can talk again and his mind is sharp. He is still paralyzed in his right arm and leg. The doctors are hopeful that those will function again.

I know this is not about model airplanes or Stunt News or PAMPA. This is about family and the foundation of our lives. Don't let petty things get in the way of appreciating the truly important parts of your life. Thankfully, I have been blessed that way.

- Tom McClain





President's Report

Bill Rich, richvalrico@aol.com

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I hope everyone's year is off to a good start, your building projects are completed and the weather is allowing you to fly.

I am writing this Presidents Column on Jan. 15th for publication in our March/April Stunt News. It is difficult to get used to the lead time required for Stunt News. Speaking of Stunt News, I hope everyone enjoyed our Jan/Feb issue with its "Retro" look. Hats off to the entire Stunt News Team, Great Job! I firmly believe that Stunt News is the glue that holds us together. I have encouraged all contributors to continue to include pictures of pilots, planes, and contest day activities in their submissions to Stunt News. I really like putting all the names, planes, and places together. I used to look forward to every monthly issue of Model Aviation, turning directly to the Controlline Column. I once told Ted Fancher that I was saving his columns in the hopes that someday I would actually understand what he was pontificating about. I also remember my disappointment when the Controlline column went to every other month. Some are concerned about the

current cost of Stunt News, I submit it continues to be a great value; every issue is full of Controlline information. There is no other Newsletter available that focuses on Controlline Stunt and features planes, pilots, contest venues, technical articles that will help you get more enjoyment out of our hobby. The cost of a PAMPA membership is really the cost of belonging to the "Stunt Community", and being informed, not just the cost of a magazine subscription. The majority of our membership is either "sport flyers" or "interested flyers" by their own admission, not flying competitively at all.

When I first started in the hobby I would buy every old Model Aviation, Flying Models, Air Trails, and other modeling magazines I could get my hands on. In those days I did not know about PAMPA and I was trying to learn stunt by trial and error, by myself, at the local High School in West Chester, Pennsylvania. I met a number of flyers atameetattheWillowGroveAirStation. This is where I really got bit by Stunt. I was so impressed by how everyone at the contest seemed to welcome me to stunt. Everyone encouraged me start competing at local contests. Everyone was very helpful, these included Jimmy Casales, Glen Meador, Lou Dudka, Windy Urtnowski and others. My experience at that first meet continues to happen at every contest I attend. The point of my rambling here is that I

believe this is the essence of Stunt and PAMPA. I realize the difficulties our organization has experienced during the last few years. We all need to look at what brought us to the hobby and what we enjoy about it. No one enjoys the bickering and infighting of the past. I can remember when we went to the field and all we did was fly and enjoy each other's company. It didn't matter whom you flew with. There were not groups segregated by geography, we were all stunt flyers who enjoyed the companionship of others with similar interest. Dave Fitzgerald may have summed it up best in a response to a former district member;

"As for competition, we are all Stunt flyers, whether you compete or not. We are supposed to be having fun. That is what is important to me, My friends and the camaraderie that can develop between competitors. My kids are getting interested now and this is such a wonderful sport in how many lessons in life it can teach. Not to mention the science, math, hands-on and building skills. That is why I fly stunt. Yes, I don't like the sniping any more than you do. It happens. It's how we deal with the problems that define us as a person."

Regarding our current membership and the state of our renewals, our new Secretary-Treasurer, Dave Gardner, indicates we have received 500 plus renewals as of Jan. 10th. This is actually about what we usually receive by this date. I firmly believe we will be around 1000-1100 members before you receive this issue of Stunt News. If any of your flying buddies have forgotten to send in their renewals please remind



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them to do so. Take a moment to ask, sometimes these renewals are inadvertently forgotten. I would like to challenge each of you to make a special effort to bring someone into PAMPA. It is everyone's responsibility to see that PAMPA grows and continues to promote the Precision Aerobatics events. I feel strongly that my involvement in this hobby and the stunt event specifically has provided me innumerable memories and very special friendships. All of us need to let our friends benefit from similar experiences. It doesn't matter if you are a "hard-core" competitor or just a fun flyer; PAMPA has something to offer for everyone.

One of the major initiatives the EC is currently working on is increasing our membership. I have asked each of the Directors to contact any member that has not renewed. Dave Gardner has sent a list of these individuals to all directors. Earlier I was asked what I would do to increase our membership. I have always felt we are targeting the

wrong group for membership. While it would be nice to have 200 young kids in PAMPA I believe there are too many instant gratification options to actually appeal to these young people. The young people we are getting, though few in number, I believe we will continue to get. Kids, with involved families, will continue to come into the hobby as long as the family members are actively involved. I believe we should be targeting young adults with disposable income. I have asked our Membership Secretary as well as our Directors to come up with a plan to target this group.

We in the process of planning our NATs business meeting and increasing the capabilities of the PAMPA website. Bob Kruger has taken over as webmaster and he has many ideas that will make the site very valuable to those with access to it. The EC has been asked to find replacements for the Advertising Coordinator (Howard Rush) and PAMPA Products (Curt Nixon). Howard has agreed to

continue until a replacement is found, same for Curt. If anyone is interested please contact your District Director or me. The Hall of Fame voting has just been completed and the results with biographies should appear in this issue.

I will close with an appeal for each of you to consider the benefits of sacrificing some flying time to volunteer to judge. We must increase our pool of available judges. I would like to appoint a committee to look into this and come up with some workable recommendations. Without competent judges our events become "fun flies". I recently volunteered to judge one or our local contests and really enjoyed watching from a different vantage point. It had been quite a while since I had judged, but it was quite an experience.

Until next time, Fly Stunt and enjoy!

- Bill Rich



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Vice President's Report

Brett Buck, buckbw@pacbell.net

(408) 246-8173

between Bob and I (when the need arises) can handle the load the way it currently stands.

One of the issues we have had is a persistent problem with access. To get to all the website features, you have to log in. There are a couple of common problems. The first is that you don't know your user name/password - this you can get reset by contacting Bob. He will send you your user name and reset your password. But the user name is usually pretty obvious - mine is 'Brett_Buck'. In general it's just that simple firstname_lastname. The underscore exists for technical reasons - it doesn't like spaces.

Problem number two is a lot more tricky, and had both Steve and I stumped for a while. In Windows, if you still use Internet Explorer, there is a security setting control panel. The default is (in the XP and Vista versions at least) "most secure". When you have that setting, the browser will not save cookies. If you reject the cookie from the site, what will happen is that you will log in successfully, but when the page refreshes, there's no evidence that you ever logged in, and it bounces you back to the login page again. So you just go around and around. I can't tell you how long it took me to figure that one out! At any rate, you need to change the security setting to one notch below "maximum" and then it will work. This isn't really a security problem. All that means is that the browser will accept cookies only from websites you personally navigate to. If you are still concerned I would strongly suggest downloading a different browser - Firefox (www.mozilla.org) or Opera (www.opera.com). Firefox is free, and can completely replace MS Internet Explorer.

The beauty of this is that Internet Explorer, being intimately tied into the rest of the system, is the most likely path to getting your computer infected with spyware, etc. As a separate program, using Firefox makes it much more difficult to plant unwanted items on your computer.

At any rate, once you log in, you

will be able to see the membership list, the various upload/download features, the picture gallery, etc. If you want to change your contact information or password, find your name on the upper right of the home page, and click on it. That will bring your profile information and you can edit it to whatever you want. Save it on the way out, and you are all done.

If there are any problems, just click on the webmaster link and send a message to Bob at webmaster@pampa.org and it will get sorted out.

Why all this talk of websites?

Why, you may ask, are we spending valuable column space on this topic? Given that computers are the tool of the devil and all, it's a fair question. Two reasons - one, it has been a source of some frustration for some of you, and we have heard your comments. But the big one is two - we are looking at making a new PAMPA membership category where you don't get a paper magazine, you don't get a CD, but you get to *download Stunt News from the website*.

This was discussed briefly in the NATs meeting minutes last year, but at that time we weren't ready to approach that, what with all our other problems. Then we had even bigger problems with the printers, and a changeover in the EC. So we waited.

This hypothetically could reduce the cost of the least-expensive membership category (current CD Domestic, \$35) greatly. To be practical, you would need at least a DSL line - count on it being a 50 Meg. or so PDF file. Of course it's going to take more bandwidth and storage than we currently have, and that will cost something, but it looks extremely promising. When it gets worked out more, we will of course give the detailed breakout of costs/benefits and go from there.

We will probably want to get a more competent backup for webmaster than yours truly, so here's your big chance - if you know web design/maintenance, get in touch with either Bob or myself and volunteer.

-Brett Buck





TRANSFER OF THE SACRED SCROLLS!

I want to thank you all for your overwhelming support for an uncontested position! It is pretty overwhelming to step into the shoes of someone who has done this job exceedingly well for a long time.

Shareen has been the ultimate combination of accountant, data manager, wife, mother and grandmother, PAMPA ‘mommy’ and the Dragon Lady! Not simultaneously, of course, but individually applied as necessary!

In the photo, note her smile, though, in transferring the material to the new officer! I had planned to go to California to pick up the ‘stuff’. Shareen said there were a ‘couple of’ boxes. Just before I left, I called and asked, “Just how many is ‘a couple’?”. At that point, she said it was ‘around 10’. I brought 13 boxes of old and current records back to Washington!and that doesn’t count the 10 more boxes she was shredding!

The renewals continue to pour in. The actual count at the time of this writing is not important, since this is two months before you’re reading this. Nevertheless, with a short renewal period, we have over 40% renewal (and NEW members!) at this time.

There have been comments about the new pricing structure, but this has been explained at length by others. The one item which was missed in the new dues structure was the combination of the magazine AND the CD. By the time you read this, there should be a solution to an inexpensive ‘add-on’ to the ‘paper’ membership, for the CD.

The new bank account and credit card services are now in place, so this has been pretty well transferred.

I do want to make a couple of things

Secretary/Treasurer

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clear at the outset. I have taken this position for ONE TERM, for my friends Shareen, Paul Walker and all the other folks I know in PAMPA. You should all be thinking about new candidates this job for 2010! (yes, it’s only two years away!)

Last Words

from the Outbound
Secretary/Treasurer

Shareen Fancher
shareenfancher1@aol.com
(650) 345-0130

It has been an interesting 10 years that I have been Secretary/Treasurer to PAMPA. I am very pleased that you, the membership, put your trust in me to handle the finances of PAMPA for so long. I am now looking forward to spending some time in my craft room—the room that I have neglected for these past 10 years!

I am so pleased that Dave Gardner offered his time to take over as PAMPA Secretary/Treasurer. We spent a couple of days in December together working on all of the things that would need to be done to keep *Stunt News* in the hands of the membership and I know he will do a great job.

If there is anything that I can pass on to you as a member of PAMPA, it is to take the time to fill out the membership form and include it with your dues. Some of you move and forget to tell us and the completed membership form helps to keep things up to date. We also need to have a “hard copy” of the membership form with method of payment filled out.

Remember, if you don’t fill it out, someone else has to—and I know I didn’t like to do it as often as I did. Please don’t just send a check in. Please send a membership form as well.

Good luck, Dave, I know you’ll do a great job!

It's been fun! -Shareen

I’m working on streamlining the activities, as much as possible, for transfer to my successor. I truly believe that even with the necessary retainage of records, the overall bulk will be much smaller.

My first goal is to convert the database from the old dBase program to another, more current program. Right now, I’m using Excel, which seems to be doing the job for the amount of folks we have. From an accounting standpoint, I’m using QuickBooks for the record keeping. Quicken probably works as well, but I’ve been familiar with QB, having used it in my business for over 10 years now.

Second is to work with the EC to assure the financial health and survival of PAMPA. We were a sinking ship, but now we seem to be ‘righting’. In a short time, I’ll have an interim financial report to show how effective we are.

Third is to do a little data sorting to let us all know where we are concentrated, how each district is doing and...what our geriatric makeup is! In general, we ARE a senior bunch, with Brett and David F. among the exceptions! There aren’t many of us under 50....and that should give us pause to the longevity of PAMPA and the Stunt world, in general. We may or may not have a good plan to replenish our ranks.....and it also may or may not matter, but it’s certainly something to be considered.

I’d also like to express my appreciation for those folks who have renewed (or joined) on a timely basis. Having the fax available has been a good thing for some, and scanned and emailed forms have worked for others, while good old snail mail has been the overall messenger of choice.

I will state here, though, that I was elected to the position of PAMPA Secretary-Treasurer, NOT private secretary to any or all of the membership. Each of us should do what is expected of us, including providing complete and current information for our records. Our system is based on the paper membership form each of you should have; even though the database is computer based, the paper copy is the base document for reference. WE NEED THAT PAPER FORM, FILLED OUT BY YOU!

There is discussion afoot relative to



on-line renewal, and alternate means of payment, such as PayPal, but they're strictly in the discussion phase for right now. There are some logistics and security items to be worked out, but other organizations are doing it, so it IS possible.

All the current renewal options are

noted on the PAMPA and SSW websites, including fax, email and even USPS!

A critical item relative to renewals: I will be out of the country, in Australia, for the month of April. I'll have email contact, but no means of handling any form of money. In an emergency, we have a fiscal

plan in place, but late renewals are NOT an emergency!

Thanks again for your support for this most essential position for PAMPA's survival and success!

-Dave Gardner



2007 PAMPA FINANCIAL REPORT

| | | Beginning Balance - January 1, 2007 | | | \$ 51,722.50 |
|--|-------------------|--|---|------------------|-----------------------|
| Income | | | | | |
| Advertising | | | | \$ 1,985.00 | |
| Donations | | | | | |
| | FAI Fund | \$ 912.50 | | | |
| | General Fund | \$ 10,303.00 | | | |
| | | \$ 11,215.50 | \$ 11,215.50 | | |
| Uncategorized | | | | \$ 6.63 | |
| Dues | | | | \$ 17,015.74 | |
| Interest from CD | | | | \$ 1,021.30 | |
| PAMPA Products | | | | \$ 2,147.40 | |
| Stunt News | | | | <u>\$ 120.00</u> | |
| | | | | \$ 33,511.57 | 2007 Income |
| | | | | | \$ 33,511.57 |
| | | | | | \$ 85,234.07 |
| Expenses | | | | | |
| Advertising | (Model Aviation) | \$ (489.30) | \$ (489.30) | | |
| Bank Fees | | \$ (447.92) | \$ (447.92) | | |
| Communications | | \$ (384.54) | \$ (384.54) | | |
| Design work for Stunt News | | \$ (3,750.14) | \$ (3,750.14) | | |
| Labor for Stunt News | | \$ (2,011.00) | \$ (2,011.00) | | |
| Nationals | | | | | |
| | Banquet Tkt Sales | \$ 2,418.00 | | | |
| | Banquet Expenses | \$ (2,218.33) | | | |
| | Incidentals | <u>\$ (31.77)</u> | | | |
| | | \$ 167.90 | | \$ 167.90 | |
| Postage | | | | | |
| | Officers | \$ (172.75) | | | |
| | PAMPA Products | \$ (337.44) | | | |
| | Stunt News | <u>\$ (15,847.37)</u> | | | |
| | | \$ (16,375.56) | | \$ (16,375.56) | |
| Printing | | | | | |
| | Officers | \$ (102.96) | | | |
| | PAMPA Products | \$ (148.77) | | | |
| | Stunt News | \$ (35,387.96) | | | |
| | CD Production | <u>\$ (980.00)</u> | | | |
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| | | | | | \$ (63,641.07) |
| Cashier's Check to Dave Gardner to start new PAMPA account | | | | | \$ 21,593.00 |
| | | | | | <u>\$ (500.00)</u> |
| | | | | | \$ 21,093.00 |
| | | | Ending Balance as of December 31, 2007 | | |



District 1 Report
Connecticut, Maine, Massachusetts,
New Hampshire, Rhode Island, Vermont



Dave Cook
46 Maple St.
Norfolk, MA 02056-1936
(508)528-4548
davc2@verizon.net

It is the dead of winter and I just came in from using the snow thrower on 8" of heavy wet snow. Then I did the clean up by hand and it is heavy wet snow. We had a mild spell for a couple of days before the storm and some of the guys flew but other than that it is building season.

At one time the old Brockton Aero Modelers (a very successful club for years) gave an award to each member that flew at the flying field on every

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Sunday of the year. It was referred to as the idiot badge, mostly because winter flying in NE can be, shall we say, unique. Quite a few members (including me) earned several badges. The coldest day was 1 degree below zero with a 20 mph wind. If you really want fun, try starting a Hornet 60 in that weather. We also lost a couple of speed jobs in the deep snow on landing and had to dig for them. All of this makes for great stories and tall tales.

This is a lesson on how to keep a club going – a regularly scheduled flying session at a club flying field is an absolute must. This helps to get and keep people interested. It also helps to have local competitions even if they are only informal fun fly.

Check out Rick Campbell's Online email newsletter for NEST, the Handel, great stuff. To get on the list contact Rick.

This Year's contest schedule is out - Guerry Byers and Bill Hummel have coordinated with District II to avoid conflicts and increase entrants. Speaking of the coming contest season, we need Judges, Tabulators and Field Setup help. Contact Guerry or Bill if you can help in any of these areas. We also want to set up seminars on both flying and judging. Please let Guerry or me know if you are interested.

Quick suggestion on the Builder of the Model rule: Since appearance points are given for just that, (appearance) simplify the rule by changing the wording to one statement - "The contestant must have done at least 75% of the total work required to cover, fill, smooth, paint and trim the model." Everything else is not a significant part of "appearance."

Some of these full size aviation quotes could apply to CL:

Rule one: No matter what else happens, fly the airplane and fly it until the last piece stops moving

Truly superior pilots are those who use their superior judgment to avoid those situations where they might have to use their superior skills.

Experience is a hard teacher. First comes the test, and then comes the lesson.



Bob Robertshaw's stable at the Ron Connor's Memorial



Will Moore's electric Nobler on the operating table.



Jim Summer's multi-wing creation



Doug Cook's rendition of Bill Suarez's P38 in bare bones - looks good

Flying is the second greatest thrill known to man.... Landing is the first!

You know you've landed with the wheels up when it takes full power to taxi.

In thrust I trust.

Think ahead of your airplane.

I'd rather be lucky than good.

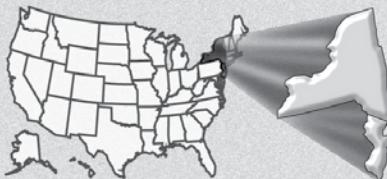
The propeller is just a big fan in the front of the plane to keep the pilot cool. Want proof? Make it stop at the wrong time; then watch the pilot break out into a sweat.

- Dave Cook



District 2 Report

New York, New Jersey



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WindyU@aol.com

We really didn't have much flying weather in District II this winter unlike the year before where we flew almost all through the winter.

Rich Giacobone finally got some trim flights on his bent-wing *Stuka*, but eventually the weather won out for now. His RO-Jett .90 ran beautifully and **Brian Eather** supplied some big props for us to work with this spring. This ship turns heads whenever Rich brings it—quite an accomplishment.

Brian Manuet can't wear out this *Strega* ARF—in fact, nobody in District II has worn one out yet. Look for more ARF releases in 2008—they have been well received in District II, and in fact at some meets this year about one third of the entries were ARFs!

Reuben MacBride outdid himself on his *Strega* ARC—it seemed to fly on the first day about as well as any ship

I've ever seen and it's gotten better as the season has worn on.

Mike Ostella's *Smoothie* ARC is still one of my favorites—its finish rivals any I've seen and Mike really likes flying it. He should know, because he's got the *biggest* air force on the east coast by my count.

Congratulations to **Billy Suarez** who won our Palisades Park meet with his modified *Score* and some very precise flying. Billy and I go back to the 1960s racing cars in Brooklyn and I know he enjoyed that win. For the rest of us, it's "Wait till next year!"

Jose Modesto flew his *Shark* ARF last season—in fact, at Flushing, it looked like other guys were flying it more than he was and everyone seemed to like its performance. Jose flew my *Testarossa* at the Team Trials when his ship got lost in the airlines freight system, but we still had a great time and lots of good memories.

Congratulations to all the winners of 2007 meets, good luck to our F2B team, and as the snow keeps falling here, I'm already planning for our 2008 season. Hope to see you along the way.

- Windy Urtnowski



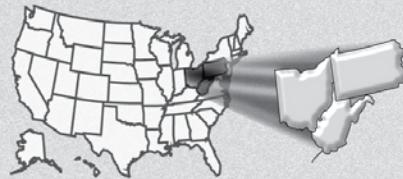
Dave Evar's Old Fokker, OS LA 25. Weighs 30 OZ. Built from a Walter Umland Kit. Photo by Dave Evar.

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District 3 Report

Ohio, Pennsylvania, West Virginia



Patrick Rowan
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Email: patr131@yahoo.com

Building Season is on us in District 3. It's mid January & there is snow on the ground. I've been putting some time in my workshop and it's starting to pay off. I have a new Destroyer pretty far along. I'm going to power this one with a PA 40 Ultralite on a pipe.

Dave Heinzman from North Olmsted, OH is building a LA 46 powered Skylark. Ron Lutz from Wadsworth, OH, is working on a Guided Whistle OTS powered by PAW 35 D. Should be interesting as I've only heard of Diesel powered OTS planes. Ron is also finishing up a Cavalier, Strega 40 & a Hughes Racer. Keith Bryant from Lancaster, OH, is finishing up an original 60 size stunter. Gary Tultz from Akron, OH, is rebuilding his 40 sized Cyclone/Edsel. It will use a tuned pipe. Wayne Buran from Medina, OH, is building an Oriental this winter. Alan Buck from Danville, PA, is building a Satona PA 40 powered on a pipe. Dalton Hammett from Albion, PA, is working on a Super Navion & a Super Clown OTS.





Panoramic photo of Burans shop & modelers. Dave Evar photo.



Buran's shop. Bob Hudak & Wayne Buran. Dave Evar photo.



Buran's shop. Dave Heinzman holding his LA 46 powered Satona. Dave Evar photo.



Buran's shop. Serge Krauss, Gary Tultz, Dave Heinzman, Paul Lutz. Dave Evar photo.



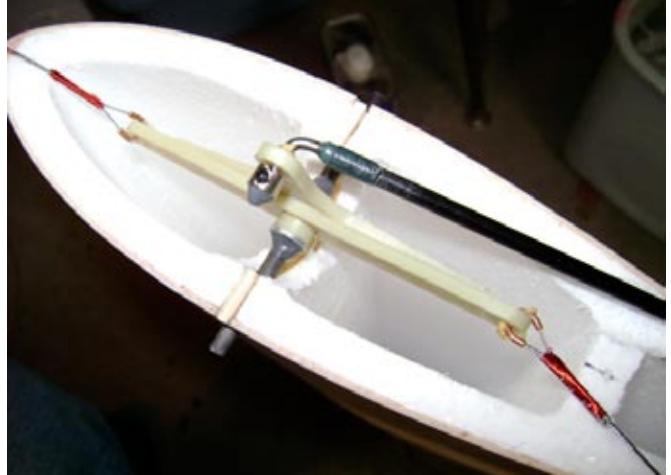
North Coast Control Liners Club fun meeting at Wayne Buran's shop/store. 1-8-08. Dave Evar photo.



The front of Dave Heinzman's Satona. Dave Heinzman photo.



Buran's shop. Dave Heinzman with his Satona LA 46 powered. Dave Evar photo.



Dave Heinzman's latest building project. Skylark foam wing & bellcrank installation.
Dave Heinzman Photo.

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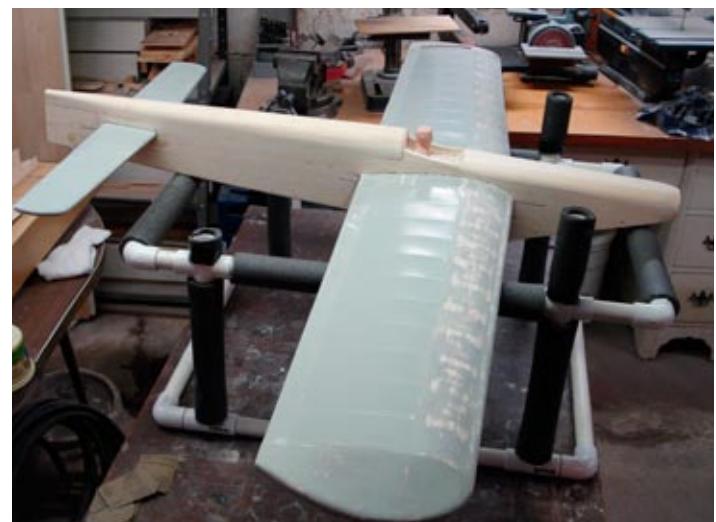
Dave Heinzman's Skylark fuselage. Will be powered by an OS LA 46. Dave Heinzman photo.



Paul Lutz's Brodak P-40. Dave Evar photo.



Dave Heinzman's Skylark inboard wing tip & lead out slider. Dave Heinzman photo.



Patrick Rowan's latest PA stunter "Destroyer" during construction.

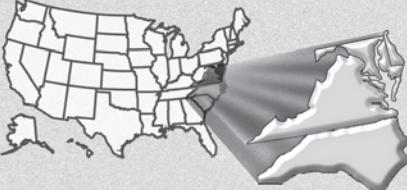


Joe Mawell & Pennsylvania's famous Dalton Hammett holding their profile stunters on their first flying day on a cold Jan. 2008. Dalton Hammett photo.

Till next time, Fly Stunt

- Patrick Rowan 

District 4 Report
Delaware, Washington D.C., Maryland,
North Carolina, and Virginia





Bill Little
406 Sun Riasd
Aberdeen, NC 28315-2538

breaking a sweat. I am sure Bill will serve with the same success!

My personal appearances this year in District 4 meets will be reduced by one (out of two!) this season. I had made a serious commitment for the dates that the Spring Huntersville meet was changed to. The traditional dates for that meet were early in June. But, the MCLS decided that with it's dates so close to the Brodak Fly-in which is heavily attended from our District, that a change was necessary. Unfortunately I found out about the change to late. I wish all who are there a great time, and I will get information for sure.

I need to become aware of any contests other than the two at Huntersville. I know that the NVCL had one, but am not sure if they are continuing with it. ??? Any other news from the District is appreciated.

On the "family" side, Aaron has an SV-31 under construction. It should turnout to be a good one. He also picked up a Vector ARF at Huntersville in October to use as a practice and back-up plane. Power will be a Magnum XLS II .36.. I am trying to finish up a couple planes, also. I have been VERY happy with my new Werwage Vulcan. I built the I-Beam version, and am powering it with an Aero Tiger 36. It is extremely stable, and turns really well. My "little buddy" Derek Barry flew it in October and was very pleased with it. That mad me very happy! After almost winning it all at the NAT's, I appreciate Derek's opinion. I understand that Dale and Derek are back in full swing in their rebuilt shop and have already finished some new airplanes! That is great news.

Hi all in PAMPA land. I am finishing this up during a freak "snow storm" here in Hades, NC.

Nothing like a little snow to send everyone around here into a tail-spin. Of course the stores all sell out of bread and milk within 30 minutes of the announcement that we "might" get snow! LOL!!

Not much has been happening around Dist. 4 lately. Should be a LOT of people building though! When this will be read, the KOI will have already taken place which is the "Season Opener" for many in District 4. I hope everyone who attended had a good time. I did receive some pictures from Northern Virgina dealing with their club field repairs. I'll have to include them next time guys.

As to building season, it isn't as "defined" here, as the weather can be plenty good to fly in about any time of the year, and it can also be like it has been recently, snow! With temps in the 60s one day, and in the 30s just a day or two later, you just never know what to do. Sometimes I do wish I was in an area where there is a definite "building Season"!

We welcome Bill Rich in as our new President, and thank Paul for his great leadership during his tenure in office. Good luck to both! Being

President can be tough at times and Paul handled it without seemingly

This coming season, the MCLS will have Nostalgia '79 in place of Classic. Any plane (usual rules) before Jan. 1, 1980. This will open up the traditional Classic event to include a large number of very interesting and great flying planes that might not otherwise get built and used in competition! I am considering a Genesis Mk II, the WC version from Bob Hunt. I am also considering powering it with a PA 51 on header muffler. Should provide quite a power upgrade from the ST 46 shown on the plans!

If you have anything dealing with District 4, please feel free to share!

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O.S. .35-S Rework includes: 1. Deburr the factory port burrs, with a rubber tip Dremel tool, 2.Then I send the piston out to be heat-treated, (which also expands it slightly), 3.Then I hand-lap the piston to the cylinder using a very mild lapping compound, 4.I install a custom made stunt venturi, 5.I repaint the red head, 6.I install Allen screws. These McLayed .40s have the strongest - break of any motor I have ever flown. If you supply a NEW motor the cost is \$70. If I supply the motor = \$115.

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Until then, may you have light winds and the sun always at your back!

- Bill Little



District 5 Report

Alabama, Florida, Georgia, Mississippi,
Puerto Rico, South Carolina, Tennessee



Dale Barry
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dalebarry@hotmail.com

This past weekend Derek and I traveled to Starke, FL to attend the 2008 KOI sponsored by the X-47 Flyers. Bill Hodges was the CD. I was concerned at first that it was going to be a wasted trip. When we left home at 4 AM it was raining and didn't stop until we were about 30 miles from the contest site. Once it stopped though there was no more rain until everyone had packed up and left the field around 4 PM.

There were 6 entrants in Basic, which is the most I've seen at the KOI. Frank Wyatt finished in 1st, TJ Weedman was 2nd, and Samuel Niebel 3rd. After Basic was done, OTS took over the grass circle. There were 9 entrants with Chuck Feldman coming in 1st, Roy Trantham 2nd, and Owen Richards 3rd. The long distance participant was Alan Buck from Pennsylvania.

Profile and Classic were flown in the parking lot, with 9 in Profile and 8 in Classic. Mark Mott was 1st, Rollin Kesler 2nd and Ronnie Thompson 3rd, all of them, including 4th place Ty Marcucci, 6th place Jim Oliver and 7th

place Lewis Popwell drove over from Alabama. Classic had Bob Dixon in 1st with his red Nobler, 2nd was Owen Richards and Ken Cerny was 3rd with his beautiful Super Ares. It went on to win the pilots choice award on Sunday. As with all the KOI's in Starke, the local Boy Scout troop served breakfast and lunch.

Sunday was a very different day. It wasn't as bad as the Weather Channel predicted, but it was rough. At 7 AM the temperature was about 32-34 degrees with a light wind. As the morning progressed the temperature crept up, but so did the wind. It got up to maybe 10 MPH, but backed off some toward the end of the contest.

There were only 3 entrants in Beginner. Davis Shad was 1st, Douglas Morris was 2nd and Darrell Mims was 3rd. Intermediate had Alan Buck taking 1st, Jim Oliver in 2nd and Lewis Popwell 3rd. In Advanced, Mark Mott took 1st place for the second time this weekend, using a Brodak P-40 ARF. Eric Viglione was 2nd with his Avanti and Ronnie Thompson was 3rd with a Strega. There were a total of 6 entrants.

Expert had 6 flyers. Derek Barry came in 1st, Bob Dixon was 2nd and Jim Smith edged out his brother Wayne for 3rd. Those three then flew for the KOI perpetual trophy and after one flight takes all they finished in the same order. This was Derek's 2nd year in a row bringing the trophy home.

I now need to give a big thanks to Bill Gruber. Since Derek doesn't have a plane of his own, Bill called me earlier in the week and offered one of Robbies's. He assembled the take-apart plane, test ran the engine and delivered to the field on Saturday. It had been in its box since returning from Spain a year and a half ago. Bill then stayed around helping us get the engine set and returned Sunday to do the same. This is what real friends are like! And obviously the results were good. Thank you Bill (and Robbie), from Derek and me.

Well, that's it for now, if I go to the VSC that'll be the subject of the next report. Talk to you then. Here are a few pictures.

-Dale Barry



Lewis Popwell and his Primary Force



Ronnie Thompson preparing his Oriental profile for an official flight



Chuck Feldman and OTS winning Jamison



Les McDonald presenting Derek with KOI trophy



Alabama gang



Mark Mott, 1st place in Advanced



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District 6 Report

Illinois, Indiana, Kentucky, Missouri



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This issue will cover more of the Memphis contest put on by Louis Rankin, more shots from the Peoria Wyreflyers contest held this year in Davenport, Iowa (high river problems) and local shots of the P3 Revolution trainer system. I also included several Kodak moments from the 2007 FAI/AMA Team Trials in Muncie. This column is constantly being helped by the trigger fingers of Michael Schmitt, Elwyn Aud and Crist Rigotti. Thanks for your help and assistance. I am quick enough with the shutter button on my camera, but these guys are a super help.



Check out Bob Hunt's electrifying Genesis as posed on the "L" pad at the AMA site during the FAI/AMA Team Trials.



Another shot of Bob's Genesis and the low profile it exhibits on the tarmac at the 2007 FAI/AMA Team Trials. This is another step forward to keep flying sites. Whoooosh.



This picture taken from the AMA Headquarters upper balcony area immediately after the pilot's meeting and weigh-in session during the FAI/AMA Team Trials.



Jim Schuett's very nice looking Classic styled ST. 46 powered Raptor gently awaits the quick hands of pilot Jim at the Peoria, IL contest in September of 2007.



Bob "Sparky" Storick prods his Jet stunter into action at the Mt. Joy, Iowa, Airport during the Peoria Wyreflyers contest. Site moved due to problems at the original circles northeast of Peoria.



Bob Brookins, AMA NATs Intermediate Event Director, carries his aerial stunt tool to the circle. This just happens to be a Windy Urtnowski Strega.



Art Johnson, from Rockford, Illinois, preps his SIG Skyray for the Beginner Wars at the Peoria/Mt. Joy event in September.



Owen Richards does the "snowbird" thing and spends time with us northerners during our contest time. We are glad to have him and his presence at contests throughout the Midwest.

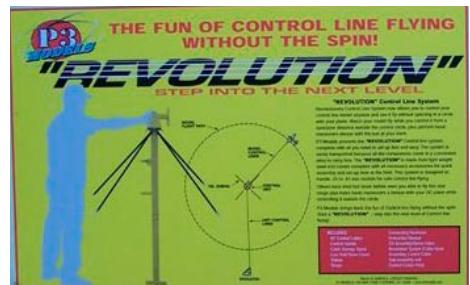




Jerry Norin is getting his Top Flite Tutor and Fox .35 ready for his flight in Beginner at Mt. Joy Airport near Davenport, Iowa.



Floyd Layton, to the left, props his Dolphin to life at Buder Park in late September of 2007.



I got the chance to look over and evaluate the P3 Models Revolution training aid for the control line instructor.



Mal Fawley of the Des Moines area fuels his Brodak P-40 at Mt. Joy Airport. Mal has also been a contributor to the Beginner Event at our summer AMA NATs.



Ken Nash of Joplin, Missouri brought his well-finished Dee Rice Oriental to the Broken Arrow contest



Enclosed are the components laid out on my back deck area for the P3 Models Revolution trainer.



Louis Rankin has many modelers frothing NATs earlier in the summer. Nice, eh?



Walter Brownell of the St. Louis area jolted us with his new electric powered Nakke to the circles of the Broken Arrow.



Here is the spinning head unit for the P3 Models Revolution trainer.



Crist Rigotti, to the right, helps Louis Rankin get his model on the circle at the Broken Arrow event at Buder Park in southeast St. Louis. This event is CD'd by Bob Arata and sponsored by the Lafayette Esquadriole.



The Texas "devil" himself, Jim Thomerson, introduced us to the Demon Old Time Stunt model at Buder Park. Just kidding about the "devil" part.



Here is Jerry Norin and his four grandkids taking the P3 Models Revolution trainer to task at Golconda International.



Jerry Norin is getting assistance from Sammy Jacobsen, his grandson, on the first trial of the P3 Models Revolution trainer.



"Big" Art Adamisin and Bob "Sparky" Storick, strike a pose at the Memphis contest.



Allen is seen with the Humongous and DS 50 at Memphis this past summer.



Elwyn Aud of the Tulsa area caught Charlie Reeves' Big Job just touching down at the Memphis, Tennessee contest CD'ed by Louis Rankin.



Columnist Allen Brickhaus gets his Bob Gialdini Rayette into the fray for the first time at the Memphis/Louis Rankin contest.



"James Mills is pleased to show stunt flyers the new flying circle built by the city of Springfield, Missouri. It came as a pleasant surprise to James and the modelers in that area."



Bob "Sparky" Storick is stuck in mid-air by Elwyn Aud at the Memphis event. Bob's Jet stunter is getting well trimmed and is a threat to the Expert circle in the Midwest.



Another marvelous Elwin Aud shot of the Addie and Tony Nacarrato's Big Job in the air over Memphis. Charlie Reeves and Keith Trostle should be given much credit for bringing this model to light in the pages of Flying Models.



Another high-flying shot is triggered by Elwyn Aud at the Memphis get-together.



**Steve Moore of Dexter, Missouri gets in the air at Memphis.
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District 7 Report

Iowa, Michigan, Minnesota, Wisconsin



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Let's get started. I've had some feedback from some District members for this column and that is always appreciated. I know that there has to be more going on in our district than what I'm being told. So all those who have a winter project going, just send me an email and be sure to attach some pictures.

By the time you get this Ice-O-Lated will be history. I'm writing this the 3rd week in January and it is only 5 weeks away. Speaking of contests, be sure to get your motel reservations in early, especially the NATS. The Signature Inn and Lee's Inn already has no more non-smoking double rooms. I booked at the Fairfield Inn.

The MICL Spring Kick Off is usually the first weekend in May. Contact Bob Baldus at 515.255.8025 for details. Mike Schmitt has his contest on Saturday, May 24. Contact Mike at 847.543.1216. The Milwaukee group traditionally has their contest on the week before Father's Day. Contact Pete Mick at 262.377.6137 for details. The SIG contest is June 21-22. Mike Gretz can be reached at 641.623.5154.

The Lansing Michigan area group had a New Years Day Fun Fly. We had a lot of snow and the pictures prove it. Paul Smith writes that he is building a Cosmic Wind for multiple events. Bob

Baldus wrote that he is working on a Gieseke Bear that will be Monokoted and painted. I know how that goes! Frank Carlisle writes about a 3 city Fun Fly. Here is what he has to say:

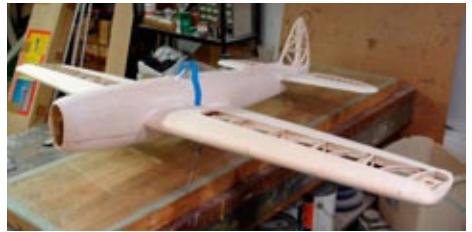
A few years ago, I started attending events in Flint, Lansing and Kalamazoo. They weren't stunt events but they were loads of fun. As time went by I became friends with the guys in the 3 cities and started promoting the idea that all of us should attend each other's events. The other guys agreed. The reasoning was that we could all have a much larger turn out if we supported each other with our attendance. Our events tripled in size the next year. We went from a dozen participants for each event to 30 plus in two years.

Last year we started talking about having a NASCAR type tour with each of the three cities sponsoring one of three events. It sounded like a good idea and we spent the fall of last year putting together a standardized format of tricks that we all enjoyed. We settled on dates that left breathing room between each event and that didn't conflict with other c/l activities. At the end of the season we plan on having a banquet at which the overall season winners will receive their awards and recognition. The scoring system includes points for attending each of the events, number of tricks entered and placement from first to third. The point system is set up in such a way that anyone could possibly win the season finale regardless of skill level.

We have quite a bit of enthusiasm for the Tour d' Michigan and high hopes for a successful fun filled season of flying and socializing with modelers from all around the state.

I hope that your winter project is going well and that you don't have too many problems building and finishing it. My project has had some problems but I took the time to correct them. They even included building another complete stab. Yeah, I didn't like the way the Monokote turned out, so I stripped it off. In doing so I put some major dents in the wood and decided to

build another one. The second one was of different construction and turned out fine. I lost a week but the effort was worth it. We all have problems during building and finishing, the big question is, how far do you go in fixing them before moving along?



Bob McDonald is building another P-47E for next year.
McDonald photo.



Another picture of Bob's P-47E. I'm guessing that it will be powered by a PA75. McDonald photo.



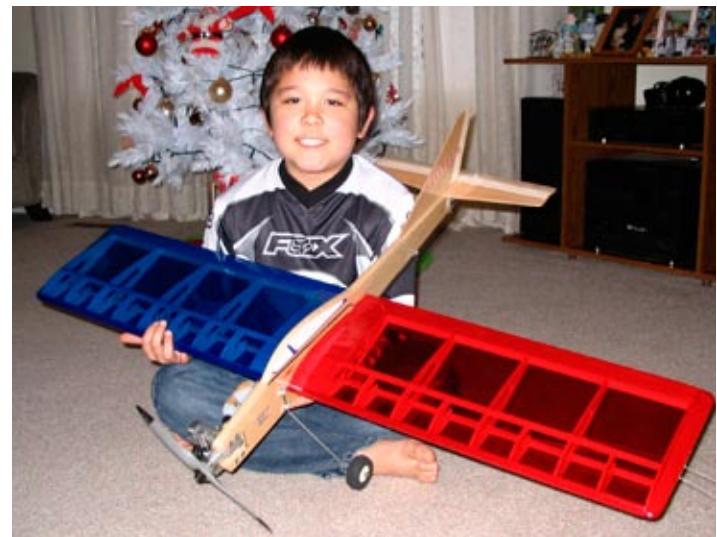
Lansing area flyers had a Fun Fly. Here we have Terry Bentley, Anthony Davis, Bob Labadie, Ken Strobel, and Rich Kacmarsky. Kacmarsky photo.



Bob Labadie and his ski fitted Buster. Kacmarsky photo.



Team Paris. They had a New Year's Day Fly In also. John, Grace, and Michael. Paris photo.



Michael with SIG Skyray that he won at last year's SIG contest. OD 25FP powered and 11 coats of clear dope on the fuselage. Looks real nice Michael. Paris photo



Grace is working on her Nobler ARF she won at last years NATS. She is wrapping the redone leadouts. Paris photo.



John Carfaro keeps us updated on his P-51. Carfaro photo.



Grace and her 3 year project, a Little Jumping Bean. Paris photo.

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| Sea Vixen | plan #CF033 | 04/66 FM | Knight | plan #CF164 | 06/69 FM |
| Ryan SC | plan #CF087 | 07/67 FM | Swinger 2 | plan #CF187 | 03/70 FM |
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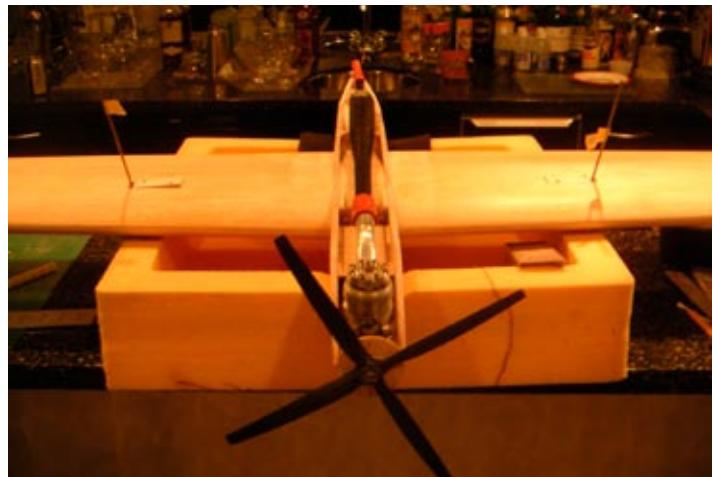
John holding his Gotcha Streak 2000 powered by a SilverFoxx 40. Paris photo.



Another view of John's take apart P-51. Ro-Jett 76 powered. Carfaro photo.



John flipping the Flite Streak on New Years Day. Paris photo.



Front view of the P-51. Carfaro photo.



Bob McDonald snags 2nd place in Expert at the SIG contest.



Russ Gifford at the SIG contest getting ready for a flight.



My Phacade near sunset at davenport.



The new stab on my Harbinger 2008.

- Christ Rigotti 

District 8 Report
Arkansas, Louisiana, New Mexico,
Oklahoma, Texas




John Hill
9111 Palmshores Ct
Spring, TX 77379
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jhill4@houston.rr.com

Well it is January and I am writing the column for the March/April

issue of Stunt News. Here in District VIII most of us are furiously building and finishing our new stunt ships for the 2008 season. I am at the stage of filling all of the little dings and sanding the primer coats. If the weather permits I should have paint on by the end of the month. I spoke with Frank McMillan and he is at about the same stage as I am.

I haven't heard anything from the boys in Oklahoma and I suppose that is because the winter weather has been a bit intense up there. Even here in Texas, where we usually have mild winters, the weather has not been conducive to doing any flying. The winds have been 15mph to 25mph and we have had a lot of rain. Usually Elwyn Aud, Joe Gilbert and De Hill send me pictures and a little bit of blurb on what is going on in Oklahoma and Arkansas.

This should be another active contest season in the district with the usual contests in Houston, Dallas, Texarkana, Sequin, Baton Rouge and Tulsa. There are new contests that are planned in

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Sequin and possibly Houston. David Gressens has taken over the Houston Memorial Day contest for this year and I am sure that it will be a great



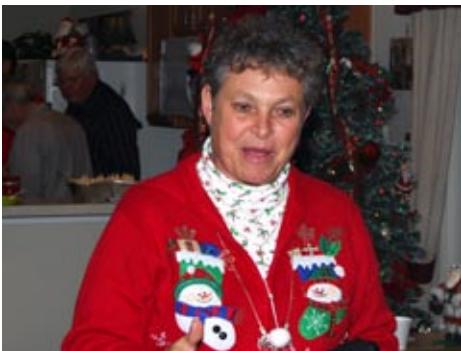
From left to right David Russom, Mike Scott, Bill Wilson and Al Rabe enjoying the good eats at Don Hutchinson's Christmas party.



Dale Gleason holding court with Bill Lee looking on. Looks like he is reliving aerial combat experience.



Tom Farmer one of the general all round good guys from the Dallas area.



Linda Gleason chatting and taking photos. Linda and Dale are two of the hardest working folks in the district. Linda has been a long time volunteer at the NATs, VSC and most of the contests in the district.



My other half and biggest supporter. Nuff said...



Richard Oliver's better half and I mean better half! Edie has been a volunteer at the VSC, NATs and our contests in Houston. Always there willing to help.



The "Zman" Zuriel Armstrong.



Richard and Edie Oliver's new house on eleven acres. Lot's of room for a flying circle or two.

success. I am not sure at this time if the RingMaster contest will be held in Houston again or not. It was a great success last year and a whole lot of fun for everyone. I may even have to break down and build the RingMaster kit that I have in the shop.

By the time everyone reads this VSC will have come and gone. Hopefully David Russom or Elwyn Aud will be there to get some great pictures for the next column. I know that District VIII will be well represented again this year as in years past.

At the beginning of December Don Hutchinson invited everyone close by to attend a Christmas party at his house in Fort Worth. Don and his wife have a beautiful home on the outskirts of the city. The DMAA club also held an annual meeting the night of the party. Tom Farmer walked away with a genuine Scott Dinger SuperTiger .46 muffler as a prize.

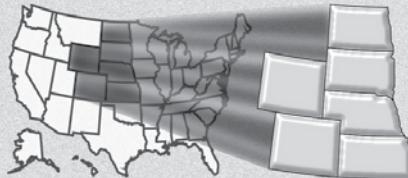
Several of us have become country land barons in preparation for or actual retirement. We even have a transplanted Jersey boy in our mist. Les Demitt has settled down here in Texas just outside of Centerville on a twenty eight acre spread. I haven't been there yet but will soon make a visit. My wife and I also bought twelve acres south and west of Centerville as our retirement place. The prerequisite was that I have enough land to build a flying site. I plan on doing a lot of flying and building when I retire in another four or so years.

Well that's about it for me. I need to get back out in the shop and finish my new ship. Tight lines and fair winds to all.

- John Hill



District 9 Report
Colorado, Kansas, Nebraska, North Dakota,
South Dakota, Wyoming



Carl Shoup
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(970) 434-0906
shoupentstatorrepair@prodigy.net

I started the year off right. I got my first flight of the year on January 1. The Montrose Model Aircraft Association had their annual Chili fly on January 1. The members brought food and chili, and mother nature provided the snow and chilly 11 degree temperature. Most members flew radio control airplanes with ski's. There was 4-5 inches of snow on the control line circle. I flew my pathfinder. I didn't know if it would take off in the snow but I thought what the heck, if it doesn't we will just hand launch it. District 9's newest member Don Dubie gently set down my pathfinder and it took off. It was a fun fly, the landing was a little rough though.

As I write this I am working on my new Belfrey Bound III. My wife doesn't think I will get it done in time for the VSC but I have assured her it will be done. I hope to see you all in Tucson. Don and Steven Dubie and myself plan to represent Western Colorado at the VSC.

I have enclosed some pictures of the Chili fly. I received a note and picture of Dave Meyers winter project.



Carl flying his Pathfinder with a blue sky background



I stuck the landing.



Here is my take off tracks and my Pathfinder.



Dave Myer's Mackey Profile.

I would be happy to put in your pictures or activities. Please send me an email, snail mail, smoke signal, or sky writing. I would really like your input. Until next time Happy Flying.

-Carl Shoup 

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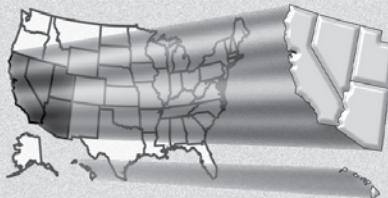
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HUMMELSTOWN, PA. 17036



District 10 Report

Arizona, California, Hawaii, Nevada, Utah



David Fitzgerald
2063 Monticello Rd.
Napa, CA 94558-2001
(707) 259-0626

DavidLFitzgerald@sbcglobal.net

Today was one of the very few days I just decided I need a break from everything I try to do every day, every week, every month. I have finished my training with UAL, and I'm back on the bottom of the seniority heap, so I'm on call. Which pretty much means I go to work whenever UAL decides they want me to fly. Not the best of schedules. But for some strange chance of luck, and Murphy, I didn't get called today. Today is the only day all year I've gotten to watch football—very unexpected. Unfortunately I got to watch the Packers lose in the playoffs. Then we had dinner, as the boys were arranging an impromptu obstacle course in the hallway for Eric's new electric project car. Most importantly, we read 3 chapters in a Harry Potter book. What I'm trying to say, take time to enjoy the little unexpected things. It's really fun. We also played Basketball, and threw around a baseball in the backyard. By the way, Rachael does not throw like a girl... (Dance, swimming, Tae-Kwon-Do, basketball, Soccer, but we do have special pink baseballs.)

Also, unexpected was last Saturday, I got to go flying, but only got in 2 flights. I had my plane spread out all over the bench at the field trying to diagnose a fuel leak. My

son, Michael came and got 5 flights on his Flight Streak. He was thrilled because he got more flights than I did. Unexpected, yes, but Murphy was paying attention that day. After 1/2 hour of searching, I finally found a pinhole leak under another fuel line that couldn't be seen until I disassembled the entire nose. The moral of this story, Murphy always evens things out in the end. I should have known better. When I put this engine in the front of this plane, I debated whether I needed to change out the fuel lines. I usually do as a matter of course, but decided to be cheap and recycle. So much for that little unexpected treasure. If you're little inner voice tells you to do something, and I ignore it, it's usually right, and I'm worse for the wear. Slow down, read the book, and watch the game once in a while.

Another completely unexpected treasure came my way over New Year's Day. I was in Tokyo on a United trip. We had a plane that was being very uncooperative. The spoiler computer wasn't talking to a pair of spoilers. For those of you who don't know, spoilers on a transport category aircraft are consider a roll flight control. Bad idea to try to fly without them, so our flight cancelled. Now, here I am over new years, with good, but cold weather, and 72 hours off. Kaz Minato had invited me, only a few weeks before, if I had time in Tokyo, to call and we could get together. Kaz was very gracious, we met and had dinner near his house with Hasaru Hiki, and one of Kaz's boys. It was a great evening, and after, we retired to his shop for tea and conversation about carbon airframes. The next day we went flying with Mitsuru Yokoyama, Hiromi Ohata, and quite a few of the other Japanese flyers who came out that day to brave temperatures in the 40's. I was offered the opportunity and accepted, to fly Kaz's latest Blue Max, now retrofitted with a PA 75.

Wow, what a good flying machine. The engine setup was very good, and did not mind the cold at all. Kaz is running over 8 oz. of 5% fuel. It turns out he was using the same size venturie I am using, but without a spigot. This ends up being the equivalent of about 2 venturie sizes larger without the

spigot. This also explained why he had to use 5% to get through the flight. He said he is going to try the spigot when there is another warm winter day to fly. Moral of this story, when Murphy deals you lemons, make the lemonade. An opportunity like this may never come again, so take the time to read the book, and watch the game once in a while, even if Murphy is watching.

I am still eagerly awaiting my CD copy of SN to see how this worked out. There may be some changes in the layout these next issues due to the printer change. I hope everyone likes the new CD product.

Time for some stupid trivia. A favorite Sci-Fi show of mine occasionally has stupid trivia and quotes from the Wizard of Oz and other less-than-main-stream items. For the grand prize of getting your name in the next SN District 10 column, who can state the ultimate answer to understanding life and the universe?

Here are a few pictures from last year that have been waiting to get in the column.

Sincerely,

-Dave Fitzgerald 

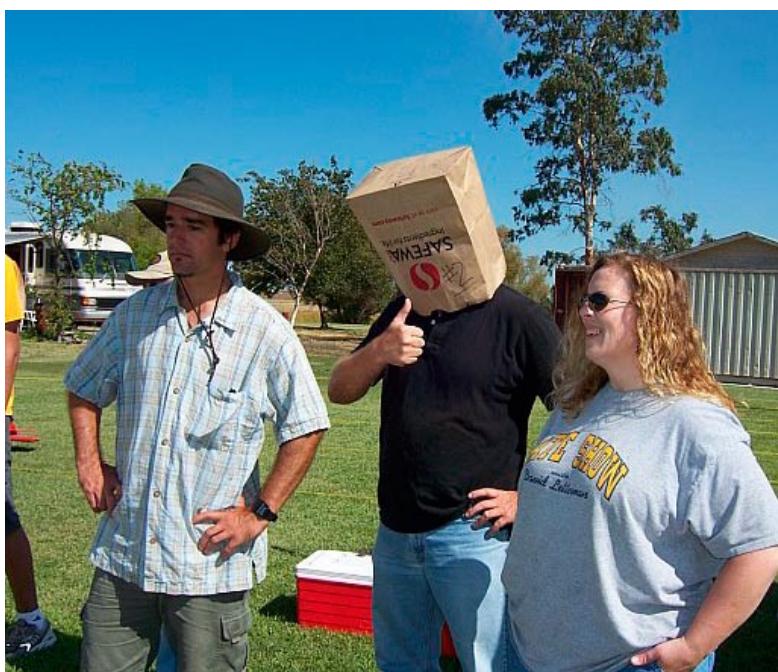
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District 11 Report
Alaska, Idaho, Montana, Oregon,
Washington

Bruce Hunt
2237 Joseph St S
Salem, OR 97302
(503) 361-7491
bhunt@swbell.net

As I write this, it is winter in the northwest. That means that while the rest of the country is fighting below zero temperatures and snow storms, we in the northwest get day after day of 40 degree weather, constant drizzle, gray sunless skies, and intermittent wind storms. The term "seasonal effectiveness disorder" was invented to describe the northwest. In spite of the general mood, those in the modeling community have decided to fight back with a round of fun fly events that take place each year during the winter. The first fun fly events were held in Richmond, BC, Canada and Portland, Oregon, on January 1st. As you can judge from the pictures, courtesy of flyinglines.org, people mostly spent the day with their hands in their pockets. There will be a repeat of this behavior when the next three fun flies convene. February 10 the Eugene Prop Spinners will hold their third annual winter fun fly at the Eugene Oregon airport site. Then on March 1 the Western Oregon Control-Line Fliers will welcome all pilots to their third annual winter fun fly at their Salem, OR, airport site, Bill Riegel Field. And finally, with the promise of spring just around the corner, The Evergreen Aero Modelers will hold their first winter fun fly on April 6 at the De-Alton-

Bibbee field site next to the Evergreen Aviation Museum in McMinnville, Oregon. As is the custom at each of these fun flies ("fun flies when you have a model") each flight earns you a chance in a drawing for fabulous left over and second, sometimes third hand, prizes. Last year I picked up a bottle of well hardened CA just for getting out in the cold and damp.

As an addendum to my last report, I've included some pictures from McMinnville of the facilities now available for campers at the Evergreen Aviation Museum flying site. All along the north side of the site is a grove of oaks with plenty of space for that motor home, tent, canopy or travel trailer. With the addition of a \$300,000 restroom with shower and electricity, you can have all the comforts of home. If we can get the Evergreen club to sponsor more events, we can move in regularly.

Now on to the next discussion that has been circulating around the country; what will Howard Rush do as an encore to last year's front row placement in the NATs appearance judging? As you can see from the pictures enclosed, Howard's Impact made its first appearance at the 1999 Northwest Regionals. At the time everyone was impressed by the unique scrolling checkerboard pattern but was baffled by the dull appearance of the finish. It seems that Howard had just done the final sanding on the clear coat but had not had time to finish the buffing. Moving on in time, I've included pictures from appearance judging at the 2005, 2006 and 2007 NATs. From a third row placement in 2005, Howard's Impact has moved up to the second row in 2006 and the front row in 2007. This means that Howard is destined to have a 20 point front row score in 2008. This is sort of a reverse of the story of "Dorian Gray." Howard gets older and his plane gets younger and better looking.

As a conclusion to my report this month, I would like to recognize one of the Northwest's most dedicated and serious competitors, Pat Johnston. Even though Pat lives in Boise, Idaho he has been to every contest from British Columbia to California and is a regular at the NATs. He even goes to Texas

on occasion. This last year Pat was the winner of the Northwest's Annual Vintage Stunt Championship trophy as the competitor with the most points in Classic and Old Time events for the 2007 season. The ultimate craftsman, Pat has designed, built and flown a number of very unique models. As I discovered when I built my RSM Shark 45, Pat drew the plans that come in the RSM kit. And this is not the only set of plans with Pat's name on them. Some day I will have to get Pat to give me the complete list. Of special note this last year, Pat designed one of the two versions of semi-scale Thunderbolts that the team from Brazil flew at the 2007 NATs. He even made a trip to Brazil at the invitation of Thomas Case, the Brazilian team sponsor. Add to this his recent publication of his P-51 Mustang and his design work on a profile Corsair for RSM and you have one very busy modeler. It is an honor to fly in competition with him and I look forward to seeing what models he will bring with him next year.

- Bruce Hunt 



Bill Veselik's P40 was seen at the Portland Fun Fly. Hope to see it again during the 2008 season.



Howard Rush's Impact at its first contest in 1999 Little did we know that eight years later it would be front row at the NATs.



Vancouver, BC modelers trying to figure out what they are doing flying on January 1st when they could be home watching American College Football games. Or maybe it's the hang over from the night before?



The McMinnville Evergreen Aviation Museum's "Outhouse" is the best \$300,000 restroom facility in the Northwest. Next year they might have mirrors and toilet paper.



Mike Haverly traveled to McMinnville in style and found this beautiful camping spot adjacent to the flying circle.



Allen Resinger readies his Gypsy for a flight at the Richmond, BC flying site. Chris Cox holds on and waits for the prop induced chill factor.



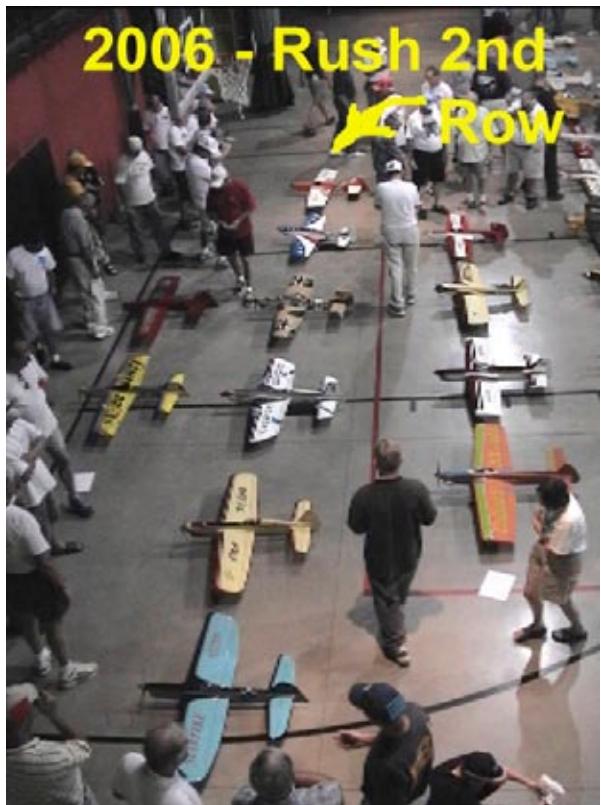
Mike Denlis models his latest project affectionately named "Big Red." His current challenge is to get a 6 minute flight out of a 4.5 oz tank using a ST60 engine. Anybody wanting to send suggestions can contact Mike.



Jim Christiansen's Tutor in flight at Portland on January 1st during the Fun Fly sponsored by the Fireball's.



Appearance judging at the 2005 NATs found Howard's Impact in the third row.



Here Howard's Impact made the second row at the 2006 NATs.



From a few years back, Pat Johnston's QED makes its first appearance in Seattle.



Pat explains that gravity always wins to Mark Scarburgh after Mark lost a battle using Pat last QED.



At the 2007 NAsS, Howard's Impact receives 19 points and a front row placement. Next year it's 20 points or bust!!



A close-up of Pat Johnston's craftsmanship on his 4-stroke powered P-40. Pat loves those wooden props.



Pat Johnston's P-40 sits next to his truck while Pat flies at McMinnville.



Pat Johnston's Rabe Bearcat with a flawless Reno Air Racer finish was Pat's Classic entry for a couple years.



Did I mention that Pat Johnston is height challenged. Here Pat gets ready for the glow plug spit-off to break a tie at the Richmond, BC contest. The ice chest gave him a better but ultimately futile chance.



Pat Johnston models his latest profile design for the Corsair.



At the 2006 NATs, Pat Johnston tries to explain to Thomas Case why he should design the Brazilian Team's Thunderbolt even though his model is facing the wrong direction.



Contest Calendar

Howard Rush, [\(425\) 746-5997](mailto:hmrush@comcast.net)

Jim Snelson, [\(505\) 296-2884](mailto:janhobbies@msn.com)

Stunt News Contest Calendar

Listings are what we had at the Stunt News deadline. For up-to-date listings and additional information, see the PAMPA Web site: <http://www.control-line.org/DesktopDefault.aspx?tabid=24> and the AMA Web site: <http://modelaircraft.org/comp/ContestCalendar/Webcalendar/Flying%20Events/calendar.htm>. Be sure to confirm with the CD before going to a contest. Please submit new listings to Howard Rush, hmrush@comcast.net, and Jim Snelson, janhobbies@msn.com. See <http://www.controllinecentral.com/Calendar.asp> for links to contests outside North America. Submit contest ads to Howard Rush.

Events marked with an asterisk use non-standard rules. Contact CD for details.

2008 Contests:

March 7-10

Whangarei Model Aircraft Club New Zealand (International) Stunt Supreme Contest, Portland, 7 miles south of Whangarei City, Northland, New Zealand

F2B, New Zealand Sportsman Aerobatics
Contacts: Mr. Kim Webby, 28 Cockburn St., Onerahi, Whangarei 0110, New Zealand, (09)4360185;

John Danks, westech@xtra.co.nz (label subject as "Stunt Supreme")

March 12-15

Vintage Stunt Championships XX, Christopher Columbus Park, 4600 N. Silverbell Rd, Tucson, AZ

Wednesday: Old Time round 1, Ignition* round 1

Thursday: Old Time, round 2, Ignition* round 2, Classic appearance judging

Friday: Classic round 1

Saturday: Classic round 2, banquet

Entry deadline March 7

CD: Lou Wolgast, 3652 E. Northern Dancer, Tucson, AZ 85739, (520) 749-

1812, cdvsc@ccmaconline.org, daytonalou@aol.com.

Assistant CD: Robin Sizemore, 12405 E. Arbor Vista Blvd., Tucson, AZ 85749, (520) 749-4434, vscsidekick@ccmaconline.org

Banquet: Jim Hoffman, 2658 W. Montgomery Dr, Chandler, AZ 85224, (480) 897-0630, windswept4@cox.net
www.ccmaconline.org

April 12-13

Second Annual Brotherhood of the Ring Ringmaster Roundup, Scobee Field, Westheimer Pkwy and FM 1464, Houston, TX Saturday: Precision Aerobatics* (Beginner, Intermediate, Advanced, Expert)

Sunday: Old Time*, Team Stunt*

All events S-1 Ringmasters only

CD: David Gresens, 9614 Landry Blvd, Spring, TX 77379, (281) 772-9053, dgresens@kleinisd.net

www.brotherhoodofthering.info

April 18-20

Northwest Fireballs' Jim Walker Memorial Spring Tune Up, Delta Park, I-5 exit 307 north, 306 south, Portland, OR

CD: Gary Harris, 2814 NE 77th Pl., Portland, OR 97213, (503) 255-6471, harisgaris@comcast.net

April 20

WAM Fund Day, Mavis Henson Field, County Road 102, 2.5 mi south of I-5 exit 536, Woodland, CA

1/2A*

CD: Paul Isenhower, 912 W Main St., Ripon, CA 95366-2325, (209) 599-2405, p.e.is@juno.com

April 26-27

Bob Palmer Memorial, Whittier Narrows Park, South El Monte CA, 60 Freeway and Rosemead Blvd. Show your AMA card at the gate to get into the park free.

Saturday: Old Time, Classic, Beginner Precision Aerobatics, Profile Sportsman*

Sunday: 1cc/Leprechaun*, Profile Competitor*, Precision Aerobatics (Intermediate)



The Brazilian Team descends on the 2007 NATs with Pat Johnston's Thunderbolt design. Some opt for Bill Werwage's design but the Johnston design's bent wing and rounded body capture the semi-scale look.



A couple of the Brazilian Team members guard the flight line at the 2007 NATs.



Pat Johnston's design takes flight. Pat not only designed the Thunderbolt, he went to Brazil to help get the Brazilian team ready for the 2007 NATs.



ate, Advanced, Expert)

Contact: Rudy Taube, 223 Valley Dr., Hermosa Beach, CA 90254-4660, (310) 376-3319, imacone@aol.com
www.kotrc.org

May 3-4

Mid Iowa Controlliners Spring Kick-Off, Big Creek State Park, Polk City, IA

Saturday: Old Time (all skill levels combined), Classic (Beginner and Intermediate combined, Advanced and Expert combined), P-40* (Beginner and Intermediate combined, Advanced and Expert combined)

Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Bob Baldus, 6719 Colby Ave., Des Moines, IA 50311-1610, (515) 255-8025, bstudeman@aol.com

May 17

Lafayette Esquadron Midwest Speed and Skyray Triathlon, Buder Park, exit 272 N from I-44, Valley Park, MO

Skyray Triathlon*

CD: John Moll, 7315 Elm Grove Ct., Hazelwood, MO 63042, (314)831-4001, j1172@sbcglobal.net.

May 17-18

Cobb County Sky Rebels' Atlanta Stunt Meet, Lockheed-Martin parking lot, exit 261 from I-75, Marietta, GA

Saturday: Profile*, Old Time, Nostalgia*

Sunday: Precision Aerobatics (Beginner, Intermediate*, Advanced*, Expert*)

CD: Tom Dixon, 315 Santa Anita Ave, Woodstock, GA 30189, (770) 592-3279

May 24

Chicagoland Circle Cutters' Windy City Classic, Ned Brown Forest Preserve (Busse Woods), Golf Rd near Rte 53, Rolling Meadows, IL. Entrance is off Golf Rd. Turn into forest preserve, make the first left. Drive to the end and park.

Precision Aerobatics (Beginner, Intermediate, Advanced, Expert), Basic Flight*

CD: Michael A. Schmitt, 34431 N. Tangueray Dr., Grayslake, IL 60030, (847) 543-1216, mschmit@attg.net

May 23-25

Northwest Control-Line Regionals, Eugene, OR airport

Friday: Old Time

Saturday: Advanced and Expert Precision Aerobatics appearance judging, Classic, Profile*, Precision Aerobatics (Beginner, Intermediate)

Sunday: Advanced and Expert Precision Aerobatics flying

CD: John Thompson, 2456 Quince St., Eugene, OR 97405, (541) 689-5553, JohnT4051@aol.com

[### May 25](http://flyinglines.org>Action.html</p></div><div data-bbox=)

Spring Opener, Niagara Falls, Ontario Profile*, MACC Stunt

<http://www.balsabeavers.ca/>

May 25

Topeka Control Line Association Top Classical, Gage Park, Topeka, KS

Precision Aerobatics (Beginner, Intermediate, Advanced, Expert), Basic Flight*, Old Time

CD: James Lee, 827 SE 43rd Street, Topeka, KS 66609, (785) 266-7714, jlee9@cox.net

May 31, June 1

Sir Dale Kirn's Knights' Joust, Whittier Narrows Park, South El Monte CA, 60 Freeway and Rosemead Blvd. Show your AMA card at the gate to get into the park free.

Saturday: Old Time, Classic, Precision Aerobatics (Beginner, Intermediate)

Sunday: 1cc Aerobatics*, Precision Aerobatics (Advanced, Expert), Profile* (Sportsman, Competitor)

Contact: Dennis Coleman, 1563 E Rud dock St, Covina, CA 91724-2842, (626) 332-9700, Dencole@aol.com

www.kotrc.org

June 10-14

Brodak Fly-In, Brodak flying field, Carmichaels, PA See Web site for map and directions.

Tuesday: Profile* (Beginner, Intermediate, Advanced, Expert)

Wednesday: Classic* (Beginner, Intermediate, Advanced, Expert)

Thursday: Old Time (Beginner, Intermediate, Advanced, Expert), Ladies-only Basic Flight*, Precision Aerobatics appearance judging (Intermediate, Advanced, Expert)

Friday: Precision Aerobatics flying (Beginner, Intermediate, Advanced, Expert) round 1

Saturday: Precision Aerobatics flying (Beginner, Intermediate, Advanced, Expert) round 2

CDs: Allen W. Brickhaus, Tom Hampshire, 100 Park Ave, Carmichael PA 15320, (724) 966-7335; flyin@brodak.com

<http://www.brodak.com/fly-in.php?id=20>

June 14-15

Dallas Area Summer Heat, Samuel Garland

Park, E. Northwest Highway and Garland Rd, Dallas, TX

Saturday: Old Time, Classic

Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Tom Niebuhr, 7173 FM 1377, Blue Ridge, TX 75424-6347, (972) 736-3780, blueskymodels@earthlink.net

www.DMAA-1902.org

June 21-22

26th Annual Sig C/L Championships, Sig Field, Montezuma, IA

Saturday: Old Time, Sig Classic*, P-40 Profile*

Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Mike Gretz, Sig Mfg Co, PO Box 520, Montezuma, IA 50171, (641) 623-5154, mikeg@sigmfg.com

June 22

Balsa Beavers MFC Toronto & District Control Line Championships, Centennial Park, Etobicoke, Ontario

Sunday: Profile Stunt*, F2B

<http://www.balsabeavers.ca/>

July 5-6

Tulsa Glue Dabbers' Triathlon and Mirror Meet, Reeves Field, E of Tulsa, OK Take I-44 East across Tulsa to Hwy 412. Once you pass under Creek Turnpike, travel 2.9 miles to 26500 St. East. Turn left on access road. At stop sign, turn left. Reeves Field is 1/4 mile west on the right, between red-roof building and green-roof church.

Saturday: Stunt, Racing and Balloon Bust Triathlon*

Sunday: The Mirror Meet*: the stunt portion of the 1953 Mirror Meet (two skill classes)

CD: De Hill, 5811 S. Utica, Tulsa, OK 74105 (918) 743-4912 (day) (918) 743-4912 (eve), dfhill@juno.com

<http://www.tulsacl.com/Events.html>

July 13-18

U. S. Control Line National Championships, AMA, E. Memorial Drive, Muncie, IN

Sunday: Precision Aerobatics (Beginner, Intermediate) (unofficial Nats events)

Sunday: Precision Aerobatics* (Advanced, Jr., Sr., Open) appearance judging. Entry deadline is noon Sunday.

Monday: Old Time, Classic (unofficial Nats events)

Tuesday: Precision Aerobatics* (Advanced, Jr., Sr., Open) qualifying rounds 1 and 2.



Wednesday: Precision Aerobatics*
(Advanced, Jr., Sr., Open) qualifying rounds 3 and 4.

Thursday: Open Precision Aerobatics* Top 20, Advanced Precision Aerobatics* finals.

Friday: Open Precision Aerobatics* finals, Walker Cup flyoff.

Beginner, Intermediate ED: Allen Brickhaus, abkb801@shawneelink.net

Old Time, Classic ED: Mike Keville, vscguy@cox.net

Official-events ED: Paul Walker, go_stunt@comcast.net

Get registration form from AMA Events Department, 5151 E Memorial Dr., Muncie, IN 47302, (765) 287-1256, ext. 224 or 293, nats@modelaircraft.org
www.modelaircraft.org/events

July 26-27

Vancouver Gas Model Club Western Canada Stunt Championships, Rice Mill Road site, Richmond, B.C.: Take Steveston Hwy turnoff from Hwy 99, turn left. Left at No. 5 Road, Left onto Rice Mill

Saturday: Old Time, Classic, Pukey Profile*

Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Alan Resinger, 701 Coronation Ave, Duncan, British Columbia, Canada, V9L 2V3, (250) 715-1480, resinger@telus.net

August 10

Rockford Stunt Classic, Kieselburg Forest Preserve, 5801 Swanson Rd, Roscoe, IL Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Arthur Johnson, 1818 Oslo Drive, Rockford, IL 61108-6612, (815) 398-3490, art_johnson36@insightbb.com

August 16-17

Paducah Aero Modelers' Western Kentucky/Southern Illinois Stunt Championships, McCracken County Model Air Park, Paducah, KY: Take exit 3 off I-24 on the Kentucky side of the Ohio River. Turn east on Old Cairo Road and find Coleman Road off to the right (south) at about one mile. Travel south on Coleman Road three quarters of a mile and turn left (east) on County Park Road. Go through the open, right, red gate and drive to the top of the hill.

Saturday: Beginner Precision Aerobatics*, Basic Flight*, Profile Stunt*, Classic, Old Time

Sunday: Precision Aerobatics* (Intermedi-

ate, Advanced, Expert)

CDs: Allen W. Brickhaus, PO Box 206, Golconda, IL 62938, (618) 683-7611 (home), (618) 841-0089 (cell), abkb801@shawneelink.com

Charles Reeves, 8310 Moore Road, Paducah, KY 42001, (270) 554-9920, chareeves@vci.net
<http://www.pampaducah.com/wksicontest.php>

August 23-24

Fellowship of Christian Modelers Championships, AMA, E. Memorial Drive, Muncie, IN

Saturday: Classic, Old Time, Profile Stunt*

Sunday: Basic Flight*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Allen Goff, 2100 N Carrollton Dr., Muncie, IN 47304, (765) 759-7473, jangof@aol.com
www.fcmodelers.com

August 30-31

Charles Ash Memorial Greater Southwestern Championships, Samuel Garland Park, E. Northwest Highway and Garland Rd, Dallas, TX

Saturday: Old Time, Classic

Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Terry Kirby, (972) 247-4241
<http://www.dmaa-1902.org>

August 31

Tree Town Modelaires Control Line Club Midwest Regional Championships, Aurora Airport, Sugar Grove, IL

Precision Aerobatics (Beginner, Intermediate, Advanced, Expert), Profile*

CD: Bill Calkins, 317 Snow St., Sugar Grove, IL 60554, (630) 466-1531, cflyer@mchsi.com
<http://clflyer.tripod.com/ttown/treetown-contest.htm>

September 12-14

Millington Barnstormers' Memphis Stunt Classic, 4256 Sykes Road, Millington, TN, approximately 13 miles north of Memphis Friday: practice

Saturday: Classic*, Old Time, Profile*

Sunday: Precision Aerobatics (Beginner, Intermediate*, Advanced*, Expert*)

CD: Louis Rankin, 1262 Mathis Rd, Drummonds, TN 38023-8902, (901) 837-1511, lwr@msn.com

September 27-28

Tulsa Glue Diggers' Stunt Contest, Reeves Field, E of Tulsa, OK Take I-44 East across Tulsa to Hwy 412. Once you pass under Creek Turnpike, travel 2.9 miles to 26500 St. East. Turn left on access road. At stop sign, turn left. Reeves Field is 1/4 mile west on the right, between red-roof building and green-roof church.

Saturday: Old Time* (GSCB Rules), Classic*, P-40*

Sunday: Precision Aerobatics (Beginner Jr., Beginner Sr.-Open, Intermediate*, Advanced*, Expert*)

CD: De Hill, 5811 S. Utica, Tulsa, OK 74105 (918) 743-4912 (day) (918) 743-4912 (eve), dhill@juno.com
<http://www.tulsacl.com/Events.html>

October 4-5

Central Alabama Stunt Squadron Fall Stunt Meet, Central Alabama Sport Flyers R/C field, Clanton, AL From I-65 Exit 205, follow US 31 North for 1 mile, turn left on Chilton County Road 47 for approximately 3 miles. Site is on the right side of County Road 47, N32° 46.083' W86° 35.021'

Saturday: Old Time, Classic, Profile*

Sunday: Precision Aerobatics (Beginner, Intermediate*, Advanced*, Expert*)

CD: Darrell Mims, 607 Dennis St., Clanton, AL, 35045 (205) 755-6257, dmims@drummondco.com
<http://www.casportflyers.com/>

October 4-5

Contest and Stunt Clinic, Samuel Garland Park, E. Northwest Highway and Garland Rd, Dallas, TX

Saturday: Stunt Clinic

Sunday: P-40*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Phillip Nickles, 6640 Champion Rd, Midlothian, TX 76065-5200, (972) 723-2311, debbienickles@aol.com

November 2

Tampa Bay Line Flyers' Stunt Contest, MCRC Field, 7315 71st Ave E, Palmetto, FL. From I-75, go north on US 301, turn L on Erie Rd., turn L on 69th St. Driveway to the field is past Buffalo Creek Golf Course and just west of school.

Old Time, Precision Aerobatics*

CD: Raymond Thompson, 3307 5th Dr. W, Palmetto FL 34221-6256, (941) 723-9381, rbt430@msn.com
www.manateerc.com



2nd Annual “1/2A” Multi-Engine Profile Scale contest

Christopher Columbus Park, Tucson, AZ, October 11-12, 2008

(AMA Class ‘C’ sanction)

Scale Judging/Practice/Dial-In: Saturday 0900. Official Flights: Sunday.

* For profile fuselage models of heavier-than-air, human-piloted aircraft having piston, turboprop or jet power. “Jet” replicas may use tractor and/or pusher props. Prototypes need not have flown but must have been built—photos and/or other proof required (see “Documentation”, below).

* Any glow or diesel power (no electrics)...each not to exceed .061 c.i. (1cc) displacement.

* Seaplanes/flying boats may use non-scale devices for takeoff & landing (e.g.: dollies, or small recessed wheels in the hull and/or floats). If neatly and inconspicuously executed, those will not be penalized during static scoring.

* Two categories: “Unlimited” and “Limited” (details below).

* Multiple entries allowed. May enter both events if desired. May also enter more than one model in each category.

* Maximum width of profile fuselage and engine nacelles: one (1) inch. May be less, if desired. Engine cowlings of any diameter allowed.

* Time limit to become airborne: 3 minutes per engine. Unlimited attempts allowed.

* AMA Safety rules apply. Safety thongs required. No alcoholic beverages on the field. See below for line size/diameter requirements.

* Scale documentation required, to include accurate 3-views from a reliable source. Limited to not more than eight (8) pages, preferably arranged in a loose-leaf notebook. (3-views having more than one page will be counted as one page.) Scale judging (Saturday) will be “close-up & personal”, not stand-off. Details will count!

* Proxy-flown entries invited. Must make own arrangements with a local pilot of your choice, and be responsible for shipping everything needed, except fuel. Pilot must be same age group or less. Builders in attendance may have

a proxy flyer if physically unable to fly, and with the permission of the CD.

* Entry fee: Open - \$10, plus \$5 for each additional entry. (Jr./Sr.: free.)

* Awards thru Third, plus Honorable Mention and Junior/Senior High Point.

Scoring:

“Limited”: (For models having pitch control ONLY. No throttles or other functions controlled by timers, electronics or other means) =

Accuracy of shapes and outlines: 1-20

Color, finish and markings: 1-20

1 point per in-flight lap, all engines running (max. 10): 0-10

Quality of flight (realistic T/O, Level Flight & Landing): 1-10

Bonus (max) for more than 2 engines:

5

Maximum total possible.....65

“Unlimited”: (For throttle-equipped models having any number of functional ground or flight features) =

Accuracy of shapes and outlines: 1-20

Color, finish and markings: 1-20

1 point per in-flight lap, all engines running (max. 10): 0-10

Quality of flight (realistic T/O, Level Flight & Landing): 1-10

Options (choose only 3). Must declare prior to flight:

- Proto taxi (pre- or post-flight): 0-10

- Sustained high flight (min. 30 degrees): 0-10

- Wingover (near vertical; min. 60 degrees): 0-10

- Inside Loop (1): 0-10

- Lazy Eight (1): 0-10

- Touch-and-Go: 0-10

- Optional maneuver or function (if performed by the full-scale subject):

0-10

Bonus (max.) for more than 2 engines:

5

Maximum total possible.....95

No restrictions on line length, other

than 70' max. All flying will occur on asphalt circles, one of which is flat and smooth. (If flying on either of the two having “donut rings”, line lengths of less than 45’ will require you to step lively before landing!)

Minimum line diameters:

Total displ. .080 or less -- .008 stranded or solid.

Total displ. .081 to 0.25 -- .012 stranded; .010 solid (2 or 3 line systems).

Total displ. more than 0.25 -- .015 stranded; .012 solid (2 or 3 line systems).

Pull Tests:

Total displ. .080 or less – 5 pounds.

Total displ. .081 to .2550 – 15 pounds.

Total displ. .2551 to .4028 – 30 pounds.

Choose your subject and start building NOW. These things take longer than you might think.

Contest Director: Robin Sizemore

Event Director: Mike Keville (for more info, phone 520-307-1523 or e-mail vsc-guy@cox.net.)



Contest Reports

Fall Follies
October 6-7, 2007, Salem, OR
Results from flyinglines.org
<http://flyinglines.org/Follies.07.html>

| | | | | |
|-------|------------------|-----------|-----------|--------|
| 1 | Greg Hart | JD Falcon | OS .46 LA | 413 |
| 2 | Mark Scarborough | | Oriental | OS .40 |
| FP375 | | | | |

3 Mike Haverly JD Falcon Brodak .40 225

Expert

Judges: Don McClave, John Thompson

| | | | | |
|---|-------------|------------------|-------------|-------|
| 1 | Paul Walker | Impact XLE | Plettenberg | 546.5 |
| 2 | Bruce Hunt | Southwick Lark | OS .46 LA | 479.5 |
| 3 | Bob Smiley | Profile Oriental | Brodak .40 | 458 |

Advanced

Judges: Don McClave, Pat Johnston

| | | | | |
|---|---------------|---------------|-------------|-------|
| 1 | John Thompson | Vector 40 | OS .40 LA | 476 |
| 2 | Todd Ryan | Cardinal | OS .40 FP | 413 |
| 3 | Mike Haverly | Oriental Plus | RO-Jett .40 | 358.5 |

Intermediate

Judges: Don McClave, John Thompson

| | | | | |
|-----------|------------------|------------|---------------|-------|
| 1 | Rick Cochrun | Pathfinder | OS .40 LA | 387.5 |
| 2 | Art Zehner | | | 382.5 |
| 3 | Mike Denlis | ARF Tutor | OS .40 | 248 |
| 4 | Mark Scarborough | | ARF Vector 40 | |
| OS .40 FP | | 232 | | |

Beginner

Judges: Don McClave, John Thompson

| | | | | |
|-------|-------------------|------------------|------------|------|
| 1 | Richard Entwistle | | ARF Tutor | |
| 235.5 | | | | |
| 2 | Joe Just | Modified Twister | Irvine .25 | 42.5 |

Classic Expert

Judges: Don McClave, John Thompson

| | | | | |
|---|----------------|------------------|------------|-------|
| 1 | Bruce Hunt | Southwick Lark | OS .46 LA | 519.5 |
| 2 | Scott Riese | Cobra | OS .40 LA | 514.5 |
| 3 | Pat Johnston | Shark 35 | OS .40 LA | 510.5 |
| 4 | Bob Smiley | Profile Oriental | Brodak .40 | 498 |
| 5 | Dan Rutherford | Flite Streak | OS .20 FP | 493 |
| 6 | Leo Mehl | Ruffy | OS .40 FP | 452.5 |

Classic Sportsman

Judges: Don McClave, John Thompson

Profile Expert

Judges: Don McClave, Pat Johnston

| | | | | |
|---|----------------|------------------|------------|-----|
| 1 | Dan Rutherford | Flite Streak | OS .20 FP | 354 |
| 2 | Bob Smiley | Profile Oriental | Brodak .40 | 149 |

Profile Sportsman

Judges: Don McClave, Pat Johnston

| | | | | |
|---|------------|--------------|-----------|-------|
| 1 | Greg Hart | Roadrunner | OS .46 LA | 401 |
| 2 | Art Zehner | Cardinal ARF | OS .40 FP | 337.5 |

CD: John Thompson

Field setup: Mike Hazel, Bruce Hunt

Tabulation and score running: Mike Hazel, Art Zehner, Leo Mehl

Saturday night barbecue hosts: Bruce and Kris Hunt

Sunday barbecue: Mike Hazel, Bruce and Kris Hunt

New Zealand Nationals

December 27, 2007 – January 2, 2008, Clareville, Carterton, NZ

Results from <http://nzmaa.org.nz/Nats/60th/index.asp>

F2B

| | | |
|----|---------------|--------|
| 1 | P. Lagan | 2127.7 |
| 2 | K. Webby | 2111.5 |
| 3 | K. Barnes | 1963.1 |
| 4 | O. M. Rogers | 1930.3 |
| 5 | A. Lawrence | 1898.9 |
| 6 | D. Robinson | 1814.5 |
| 7 | D. C. Wright | 1790.5 |
| 8 | A. Hamilton | 1751.0 |
| 9 | A. Richardson | 1705.5 |
| 10 | B. C. Gibson | 1231.2 |
| 11 | S. N. Biggins | 56.5 |

Classic

| | | |
|---|--------------|-------|
| 1 | P. Lagan | 686.0 |
| 2 | A. Lawrence | 624.0 |
| 3 | B. C. Gibson | 587.5 |
| 4 | G. Duncan | 560.0 |
| 5 | D. Ackery | 533.5 |



Tampa Bay Line Flyers' Stunt Contest

October 28, 2007, Palmetto, FL

Results from *Tangled Lines*, the TBLF newsletter**Precision Aerobatics**

| | | |
|---|----------------|-------|
| 1 | Wayne Smith | 494.5 |
| 2 | Jim Smith | 487 |
| 3 | Eric Viglione | 463.5 |
| 4 | Don Ogren | 438 |
| 5 | Bud Shipley | 408 |
| 6 | Ed Ruane | 368 |
| 7 | Bob Robertshaw | 284 |
| 8 | Phil Coopy | 175.5 |

Classic

| | | |
|---|----------------|-------|
| 1 | Eric Viglione | 240.5 |
| 2 | Richard Kirk | 238.5 |
| 3 | Owen Richards | 230 |
| 4 | Ed Ruane | 227 |
| 5 | Mike Turo | 162.5 |
| 6 | Sam Niebel (J) | 30 |

CD: Ray Thompson

Judges: Jim Silhavy, Andy Sheldon

Scorer: Phil Bayly

Pit Boss: Ward Van Duzer

**58TH SOUTHWEST REGIONALS CONTROL
LINE CHAMPIONSHIPS
JANUARY 26-27, 2008, TUCSON, ARIZONA**

OLD TIME STUNT

| | | | |
|-----|----------------|---------|-------|
| 1. | BOB WHITELY | 292.0 | 305.0 |
| 2. | LOU WOLGAST | 302.0 | 301.5 |
| 3. | JIM HOFFMAN | 278.5 | 299.0 |
| 4. | BOB SMILEY | 226.5 | 289.0 |
| 5. | LEROY BLACK | 276.0 | 287.5 |
| 6. | RANDY CUBERLY | 281.0 | 286.0 |
| 7. | ED CAPITANELLI | 284.5 | 281.5 |
| 8. | GLEN ALLISON | 277.5 | 281.5 |
| 9. | ROY DE CAMARA | 244.5 | 280.5 |
| 10. | JIM RHOADES | 279.0 | 273.5 |
| 11. | BURT BROKAW | 279.0 | 273.0 |
| 12. | ROY TRAN THEM | 265.0 | 270.5 |
| 13. | ROBIN SIZEMORE | 254.0 | 221.5 |
| 14. | NICK LEMAK | 244.0 | PASS |
| 15. | LOU CRANE | ATTEMPT | 222.0 |
| 16. | STEVE HOLT | 205.0 | 53.5 |

JUDGES: BOB PARKER AND JOHN CALLENTINE

Tampa Bay Line Flyers' Quadrathon

December 2, 2007, Palmetto, FL

Results from *Tangled Lines*, the TBLF newsletter**Stunt Portion of the Quadrathon**

Judge: Bill Rich

| | | | | |
|---|----------------|---------|--------|-----|
| 1 | Owen Richards | Mustang | Fox 35 | 252 |
| 2 | Eric Viglione | Mustang | Fox 35 | 222 |
| 3 | Phil Bayly | Wildcat | Fox 35 | 185 |
| 4 | Ward Van Duzer | Stuka | Fox 35 | 60 |

CLASSIC

| | | | |
|-----|------------------|-------|-------|
| 1. | BOB WHITELY | 551.5 | 568.0 |
| 2. | GORDAN DELANEY | 559.5 | 553.0 |
| 3. | LOU WOLGAST | 538.5 | 558.0 |
| 4. | ROBERT COMPTON | 87.0 | 512.5 |
| 5. | JOHN MILLER | 499.5 | 501.5 |
| 6. | JOHN CALLENTINE | 476.0 | 501.0 |
| 7. | LEROY BLACK | 495.0 | 499.5 |
| 8. | ROY TRAN THEM | 437.5 | 492.0 |
| 9. | ROY DE CAMARA | 469.0 | 488.5 |
| 10. | BOB SMILEY | 468.5 | 485.0 |
| 11. | MICHAEL DUFFY | 478.0 | 483.5 |
| 12. | WARREN TIAHRT | 483.0 | 473.5 |
| 13. | GLEN ALLISON | 462.5 | 461.0 |
| 14. | BURT BROKAW | 457.5 | 448.0 |
| 15. | GARY GINGERICH | 452.5 | 456.5 |
| 16. | JIM RHOADES | 432.0 | 452.0 |
| 17. | NICK LEMAK | 388.5 | PASS |
| 18. | JON STANDINGBEAR | 74.0 | PASS |

JUDGES: RICKII PYATT AND JIM HOFFMAN

BEGINNER

| | | | |
|----|------------|-------|-------|
| 1. | RICK GREEN | 187.5 | 186.5 |
| 2. | JACK COMER | 182.0 | 187.5 |

JUDGES: BILL HEYWORTH AND STEVE HOLT

ADVANCED

| | | | |
|----|-----------------|-------|-------|
| 1. | JOHN CALLENTINE | 469.0 | PASS |
| 2. | TOM MCCLAIN | 459.0 | 462.5 |
| 3. | BOB SMILEY | 462.0 | 449.0 |
| 4. | MICHAEL DUFFY | 453.0 | 381.5 |

C. F. SLATTERY CO.BYRON BARKER, 2101 LOGAN AVE., NEW ALBANY, IN 47150
(812) 948-9167, E-MAIL: LINECONTR@AOL.COM**NEW, STUNT-TUNED**

THUNDER TIGER 36 STUNT \$135.00 MAG 36 \$130.00

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STUNT MOTORS: MAGNUM, ST, THUNDER TIGER**DEALERS FOR SIG, BRODAK, AND RSM****VISA, MASTER, DISCOVER CARDS****SEND S. A. S. E. FOR CATALOG**

| | | | |
|-----|----------------|-------|-------|
| 5. | NICK LEMAK | 447.0 | PASS |
| 6. | JOHN MILLER | 405.5 | 445.5 |
| 7. | ROY TRANTHAM | 439.0 | 415.5 |
| 8. | GARY GINGERICH | 438.5 | PASS |
| 9. | ROY DE CAMARA | 424.0 | PASS |
| 10. | GLEN ALLISON | 413.0 | 401.5 |

JUDGES: RICKII PYATT AND SCOTT SIZEMORE

EXPERT

| | | | |
|-----|----------------|-------|-------|
| 1. | BOB WHITELY | 533.0 | 543.0 |
| 2. | GORDAN DELANEY | 540.0 | 520.5 |
| 3. | LOU WOLGAST | 538.0 | 524.0 |
| 4. | JIM HOFFMAN | 522.0 | 515.5 |
| 5. | KEITH TROSTLE | 520.5 | 469.0 |
| 6. | ROBERT COMPTON | 505.5 | PASS |
| 7. | JIM RHOADES | 499.0 | 504.0 |
| 8. | LEROY BLACK | 494.5 | PASS |
| 9. | ROBIN SIZEMORE | 465.0 | PASS |
| 10. | LOU CRANE | 435.5 | 415.5 |

JUDGES: WARREN TIAHRT AND RANDY CUBERLY

PROFILE STUNT

JR/SR
ADVANCED
EXPERT
RAINED OUT

SPONSORING CLUB: CHOLLA CHOPPERS MAC.
TUCSON, AZ

CD: JIM HOFFMAN

TABULATORS: PEGGY CAPITANELLI, MONICA IVERSON

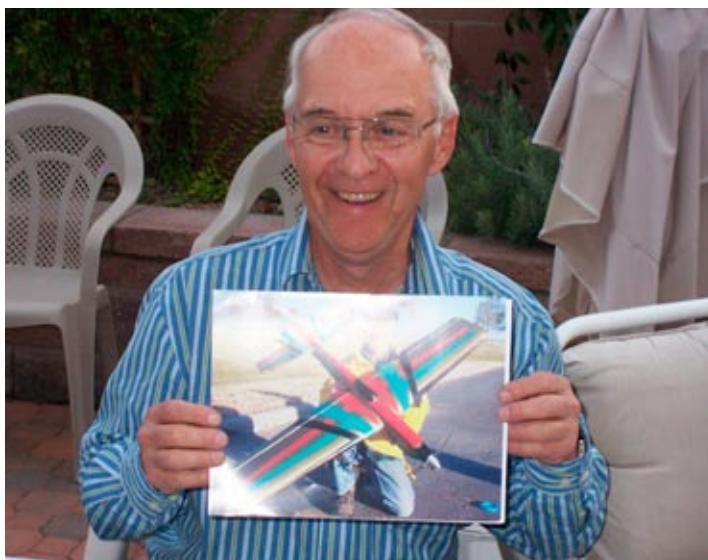














35 Stunter Stats

Tom McClain, tmcclain8@cox.net
(623) 466-8134

Features

THE 35 STUNTER

This table was produced to find out what other stunt men were thinking about "35" models by showing the general shape and size of most of the important designs.

With the exception of the twin-boom, tricycle Junkers Gableswantz, these are midwing or low midwing conventional monoplanes, wing usually slightly tapered with a straight flap hinge line. There is always more flap area at the root than at the tip. Fuselage mounted wheels have a track of about 10 in., wing gear rather more, and propeller clearances run up to 2 in. C.G. is at 15-20 per cent. of mean wing chord, the inboard wing is 2 in. longer than the outboard, a wing weight is used and the rudder has about 5 deg. offset, "29" glow motors turn 10 in. propellers, often 10 x 5 Top Flites.

In the table, flap area is taken as if the flap continued through the fuselage, and similarly the elevator, if this moves close to the fuselage, and is not cut away.

| | ... | — | Weight (oz.) | Span (in.) | Area (sq. in.) | Aspect Ratio | Wing Loading (oz./100 sq. in.) | Area | Flap | Tailplane | Elevator | Nose Length Prop Driver to: | | | Remarks | | | | | | | |
|---------------------|-----|----|--------------|------------|----------------|--------------|--------------------------------|------|------|-----------|----------|-----------------------------|--------|-------|---------|-------|------|------|------|------|-----------------------------|---|
| | | | | | | | | | | | | % Wing | % Wing | % T/P | | | | | | | | |
| Conquistador | .. | — | 52 | 480 | 5.6 | — | 66 | 13.8 | 95 | 19.8 | 40 | 8.3 | 42 | 9.3 | 19 | 2 : 1 | 7.1 | 7.8 | 10.5 | 8 | 21.4 | Elliptical Wing. 1950-55 Era. |
| Gambler | .. | — | 54.3 | 589 | 5.0 | — | 82 | 13.9 | 90 | 15.3 | 50 | 8.5 | 56 | 10.8 | 19 | 1 : 1 | 6.7 | 6.7 | 9.7 | 5 | 16.9 | Typical American stunter. |
| Coy Lady | .. | 40 | 54 | 580 | 5.0 | 6.9 | 73 | 12.6 | 106 | 18.3 | 47.5 | 8.2 | 45 | 10.7 | 19 | 3 : 2 | 9 | 10.4 | 13.5 | 5.5 | 19.2 | Best published British "35." |
| Ruffy | .. | — | 49.5 | 545 | 4.5 | — | 87 | 16 | 84 | 15.4 | 41.5 | 7.6 | 49 | 11 | 18 | 3 : 2 | 7.3 | 8.3 | 11.5 | 7.8 | 19 | Popular kit. |
| M.E. 109 | .. | 40 | 52.5 | 560 | 4.9 | 7.2 | 87.5 | 15.6 | 79 | 14.1 | 34 | 6.1 | 43 | 10.9 | 20 | 1 : 1 | 8.5 | 9.0 | 12.4 | 6 | 18.8 | The famous Charles Mackay Scalish Stunters—Fine Record. |
| Junkers Gableswantz | — | — | 57 | 610 | 5.3 | — | 94.5 | 15.5 | 110 | 18.0 | 52 | 8.5 | 47 | 11.1 | 18 | 3 : 2 | 10.1 | 10.5 | 14 | 10.5 | 21.5 | Detroiter's stunt designs are moving towards this type. |
| Strathmoor | .. | 45 | 56 | 622 | 5.0 | 7.2 | 120 | 19.3 | 87 | 14.0 | 42 | 6.8 | 48 | 11.1 | 19 | 1 : 1 | 8.9 | 9.3 | 12.8 | 7.5 | 19.5 | Designed 1951, still formidable. |
| Ballerina | .. | — | 57 | 623 | 5.2 | — | 76.5 | 12.3 | 81 | 13.0 | 46 | 7.4 | 56 | 11 | 20 | 1 : 1 | 8.3 | 9 | 12.5 | 8 | 19.5 | Suggested design by Aldrich, 1957. Netzeband's ideas similar. |
| Nobler | .. | 46 | 52 | 550 | 4.9 | 8.2 | 104 | 19.6 | 104 | 19.6 | 52 | 9.8 | 50 | 10.6 | 18 | 1 : 1 | 8 | 9.1 | 12.5 | 8.3 | 18.9 | Nobler School. |
| Aldrich | .. | — | 52.9 | 550 | 5.0 | — | 82.5 | 15 | 90 | 16 | 43 | 7.8 | 48 | 10.4 | 18 | 1 : 1 | 8.5 | — | — | 8.5 | — | Nobler School. Swept forward flaps. |
| Wooten Pawloski | .. | — | 52 | 548 | 4.9 | — | 100 | 18.2 | 97 | 17.8 | 45 | 8.4 | 46 | 10.5 | 20 | — | 8 | 8.5 | 11.8 | 6.8 | 19.3 | The great Palmer models in chronological order. |
| .. | — | 50 | 512 | 4.9 | — | 88 | 17.2 | 110 | 21.5 | 63 | 12.3 | 57 | 10.2 | 18 | — | 7.5 | 8.5 | 11.5 | 9.5 | 21 | Differential flap movement. | |
| Mars | .. | — | 49 | 470 | 5.1 | — | 79 | 16.8 | 83 | 17.6 | 36 | 7.7 | 43 | 9.6 | 16 | 3 : 2 | 7.4 | 7.4 | 10.3 | 6.1 | 15.5 | 1960 T'bird |
| Smoothie | .. | 30 | 52 | 501 | 5.4 | 6.0 | 60 | 12.0 | 100 | 20 | 45 | 9.0 | 45 | 9.6 | 15 | 3 : 2 | — | — | — | 10.8 | — | 17.7 |
| Thunderbird | .. | 36 | 54 | 597 | 4.9 | 6.0 | 80 | 13.4 | 100 | 16.8 | 40 | 6.7 | 40 | 11 | 18 | 3 : 2 | 8.3 | 9 | 12.7 | 5.8 | 18.7 | Trend |
| 1960 T'bird | .. | 40 | 56 | 600 | — | — | — | — | — | — | — | — | — | — | 18 | — | 9.5 | — | — | 6.75 | 21 | Strong tendency to these proportions. |

"The 35 Stunter" table, courtesy of Model Aircraft magazine, January 1960 of Great Britain.

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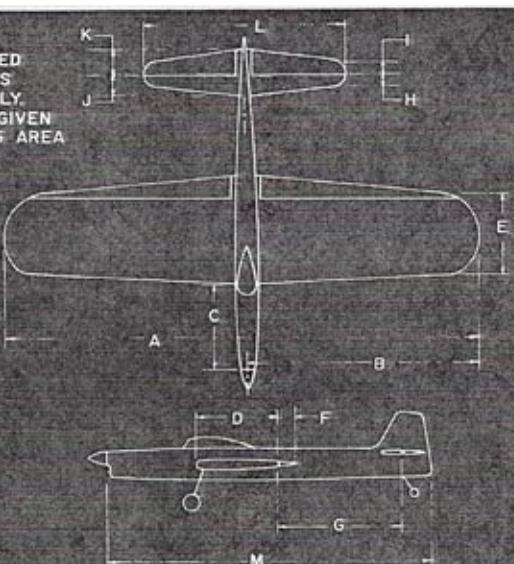
"Control Line Precision Aerobatics Proportional Dimensional Data Comparison,"² courtesy of Model Airplane News, August 1973 by John Blum. The chart was developed covering numerous aircraft. The data was obtained through personal contact and previously printed information. The examples, for the most part, are those that have been seen at the NATs and/or FAI Finals over the last few years, plus several standards. The upper right block of figures sets up the distinction and reflects basic elements. The lower left segment builds on this data, and parallels previous chart comparison efforts with weight and overall size of models, stating lifting and control surface areas, then relating these to a known constant (by model) as a percentage of the wing area. The lower right block of figures then develop other basic dimensions, some then develop other basic dimensions, some important, some not so important, into a list of dimensions expressed as a multiple of the wingspan. The latter represents the major difference between this and other charts. Most previous printed efforts

have stated actual dimensions such as nose moment, root chord, etc., and leaves proportional comparison to the reader. If you are going to build the

model, actual dimension are necessary; but if you wish to compare, percentages and proportions (multiples of a constant) are the most preferred.

Some basic criteria for understanding: (1) since the wingspan and wing area have evolved as the two most basic and sought after elements of information, thus being the most familiar to all modelers, these are used on which to base all other data; (2) the words "proportion" and "multiple" are used somewhat interchangeably. By definition, briefly, columns "B" through "M" are expressed as multiple of "A" to establish each as the proportion of the span. Clear?

- Tom McClain 



NOTE: BASIC DATA IS SPECIFIED TO WHICH OTHER DATA IS RELATED PROPORTIONALLY.

SURFACE AREAS ARE GIVEN THEN RELATED TO WING AREA AS A PERCENT:

BASIC DIMENSIONS "B" THROUGH "M" ARE THEN GIVEN AS A MULTIPLE (PROPORTION) OF THE WINGSPAN (DIM. "A"). EX. IF WINGSPAN IS 60" AND DIM. B IS .509, THEN THE INBOARD WING PANEL EQUALS 30.5 INCHES (60 X .509 = 30.54")

MODEL DRAWING FOR ILLUSTRATION ONLY

| WING AREA (INCL) WT. OZ. SQIN | FLAP AREA % | | STAB AREA % | | ELEV AREA % | | RUD AREA % | | BASIC DIM. A | D B C E F G H I J K L M | MULTIPLES OF THE WING SPAN (DIM. A) | | | | | | | | | | | |
|--|----------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|-------------------------------------|------|------|------|------|------|------|------|------|--|--|--|
| | FLAPS | SQ IN AREA | WING SQ AREA | WING SQ AREA | WING SQ AREA | WING SQ AREA | WING SQ AREA | WING SQ AREA | | | F | G | H | I | J | K | L | M | | | | |
| 1 45.0 610 75.0 12.3 | 51.0 | 8.4 | 53.5 | 8.8 | 38.5 | 6.3 | 55.0 | 509 | 173 | .191 | .155 | .050 | .286 | .027 | .036 | .050 | .050 | .436 | .818 | | | |
| 2 39.0 560 72.0 12.9 | 53.5 | 9.6 | 53.5 | 9.6 | 21.0 | 3.7 | 52.0 | 510 | .168 | .192 | .168 | .053 | .274 | .039 | .039 | .058 | .058 | .404 | .711 | | | |
| 3 52.0 700 100.0 14.3 | 72.0 | 10.3 | 52.3 | 7.5 | | | 59.0 | 510 | .178 | .166 | .152 | .053 | .311 | .032 | .026 | .072 | .055 | .382 | .748 | | | |
| 4 45.5 530 88.0 16.6 | 70.0 | 13.2 | 65.0 | 12.2 | | | 52.0 | 500 | .180 | .192 | .173 | .057 | .279 | .038 | .038 | .058 | .058 | .404 | .740 | | | |
| 5 51.0 640 95.0 14.8 | 64.0 | 10.0 | 62.0 | 9.7 | 43.0 | 6.7 | 55.5 | 513 | .185 | .198 | .162 | .050 | .289 | .036 | .036 | .054 | .054 | .469 | .756 | | | |
| 6 41.0 583 81.3 13.9 | 51.3 | 8.8 | 51.3 | 8.8 | 20.6 | 3.5 | 53.0 | 509 | .179 | .207 | .151 | .057 | .278 | .021 | .035 | .075 | .061 | .377 | .795 | | | |
| 7 48.0 575 75.0 11.1 | 52.0 | 9.0 | 45.0 | 7.8 | 30.0 | 5.2 | 54.0 | 519 | .176 | .185 | .157 | .051 | .268 | .037 | .037 | .065 | .051 | .390 | .695 | | | |
| 8 47.0 618 76.0 12.2 | 41.5 | 6.7 | 41.5 | 6.7 | | | 55.5 | 510 | .169 | .193 | .171 | .054 | .270 | .021 | .027 | .042 | .046 | .441 | .731 | | | |
| 9 47.0 615 82.0 13.3 | 58.0 | 9.4 | 44.0 | 7.1 | 30.0 | 4.8 | 56.0 | 512 | .169 | .186 | .161 | .046 | .259 | .041 | .035 | .054 | .035 | .392 | .685 | | | |
| 10 50.0 595 98.0 16.1 | 55.0 | 9.2 | 55.0 | 9.2 | 22.0 | 3.7 | 54.0 | 510 | .176 | .194 | .164 | .056 | .268 | .037 | .037 | .055 | .055 | .407 | .731 | | | |
| 11 56.0 600 86.0 14.3 | 63.0 | 10.5 | 60.0 | 10.0 | 20.0 | 3.3 | 58.0 | 510 | .177 | .168 | .138 | .047 | .302 | .037 | .026 | .081 | .052 | .362 | .708 | | | |
| 12 58.0 590 125.0 21.2 | 75.0 | 12.7 | 64.0 | 10.8 | 50.0 | 8.5 | 54.0 | 520 | .176 | .213 | .167 | .051 | .278 | .056 | .037 | .074 | .056 | .445 | .741 | | | |
| 13 56.0 620 98.0 17.4 | 53.0 | 8.6 | 51.0 | 8.2 | 46.0 | 7.4 | 57.0 | 510 | .143 | .176 | .133 | .057 | .254 | .037 | .037 | .053 | .053 | .369 | .692 | | | |
| 14 49.0 700 196.0 28.0 | 53.0 | 7.6 | 53.0 | 7.6 | | | 56.0 | 483 | .179 | .179 | .154 | .054 | .250 | .036 | .036 | .054 | .054 | .375 | .670 | | | |
| 15 54.0 690 NONE | — | 100.0 | 14.5 | 36.0 | 5.2 | 45.0 | 6.5 | 58.0 | 509 | .125 | .241 | .168 | .181 | .054 | .026 | .069 | .026 | .508 | .655 | | | |
| 16 49.0 560 33.0 5.9 | 66.0 | 11.8 | 30.0 | 5.4 | 35.0 | 6.3 | 57.0 | 509 | .158 | .193 | .068 | .044 | .263 | .053 | .026 | .053 | .026 | .386 | .703 | | | |
| 17 47.0 570 100.0 17.8 | 66.0 | 11.6 | 60.0 | 10.6 | 40.0 | 7.0 | 53.0 | 519 | .184 | .275 | .170 | .038 | .278 | .033 | .033 | .057 | .045 | .415 | .755 | | | |
| 18 73.0 660 165.0 25.0 | 58.0 | 8.8 | 54.0 | 8.2 | 54.0 | 8.2 | 60.0 | 500 | .000 | .167 | .092 | .058 | .372 | .046 | .042 | .054 | .050 | .342 | .667 | | | |
| 19 52.0 530 55.0 10.4 | 70.0 | 13.2 | 60.0 | 11.3 | 24.0 | 4.5 | 50.0 | 510 | .160 | .240 | .200 | .060 | .300 | .050 | .050 | .070 | .060 | .440 | .760 | | | |
| 20 48.0 595 145.0 26.7 | 52.0 | 8.7 | 50.0 | 8.4 | 44.0 | 7.4 | 56.0 | 510 | .134 | .179 | .107 | .065 | .272 | .022 | .043 | .067 | .043 | .393 | .661 | | | |
| 21 536 86.0 16.0 4.85 | 9.1 | 47.5 | 8.8 | | | | 50.5 | 510 | .168 | .195 | .155 | .057 | .282 | .039 | .039 | .060 | .060 | .386 | .720 | | | |
| 22 48.0 608 84.7 13.9 | 48.5 | 7.9 | 42.5 | 7.0 | | | 55.0 | 510 | .171 | .193 | .138 | .053 | .266 | .039 | .029 | .048 | .055 | .373 | .690 | | | |
| 23 570 84.0 14.7 | 37.0 | 6.5 | 58.5 | 10.0 | | | 53.0 | 510 | .175 | .198 | .151 | .057 | .264 | .019 | .028 | .043 | .057 | .453 | .717 | | | |
| 24 48.0 618 76.0 12.2 | 41.5 | 6.7 | 41.5 | 6.7 | | | 55.5 | 510 | .169 | .193 | .171 | .054 | .270 | .021 | .027 | .042 | .046 | .441 | .731 | | | |

**CONTROL LINE PRECISION AEROBATICS
PROPORTIONAL DIMENSIONAL DATA COMPARISON**

| AIRCRAFT | DESIGNER | ENGINE | TANK | PROP | FUEL | OZ. |
|-----------------|---------------|-----------|------|-------|------|-----|
| 1 TROPICAIRE | L. McDONALD | OS 35 | 3.75 | 10-5 | K&B | |
| 2 NOBLER | R. GIESEKE | FOX 35 | 4.00 | 10-6 | FOX | |
| 3 SHARK 45 | L. MACFARLAND | VECO 45 | 5.00 | 11-6 | SIG | |
| 4 STUNT MACHINE | G. SCHAFFER | OS 35 | 3.50 | 11-5 | TEST | |
| 5 GYPSY | J. SILHAVY | ST 46 | 4.00 | 11-5 | | |
| 6 PLAYBOY | J. MAYFIELD | FOX 35 | 4.00 | 10-5 | | |
| 7 CHIPMUNK | M. STOTT | FOX 35 | 4.00 | 10-6 | SIG | |
| 8 NOVI III | D. GIERKE | OS 35 | 3.50 | 10-6 | K&B | |
| 9 FOLKE-WOLFE | K. TROSTLE | OS 35 | 3.50 | 10-5 | K&B | |
| 10 FORMULA-S | J. KOSTECKY | MC COY 40 | 3.50 | 389-6 | K&B | |
| 11 AKROMASTER | L. MACFARLAND | ST 46 | 5.00 | 12-6 | SIG | |
| 12 SHOESTRING | W. SIMONS | FOX 35 | 4.00 | 10-6 | TEST | |
| 13 MUSTANG II | A. RABE | ST 46 | 5.25 | 12-5 | FOX | |
| 14 CRUSADER | V. MACALUSO | FOX 35 | 4.00 | 10-6 | TEST | |
| 15 HUMBUG | R. BARON | MC COY 40 | 4.00 | 10-6 | | |
| 16 STUKA | J. SHEEKS | ENYA 35 | 4.00 | 11-5 | TEST | |
| 17 YANK | W. SIMONS | OS 35 | 4.00 | 10-6 | K&B | |
| 18 SEA FURY I | A. RABE | ST 60 | 6.50 | 14-5 | | |
| 19 PA-6 | R. BARON | ST 40 | 4.50 | 10-5 | | |
| 20 BEARCAT III | A. RABE | ST 46 | 5.25 | 12-5 | FOX | |
| 21 NOBLER | G. ALDRICH | FOX 35 | 4.00 | 10-6 | | |
| 22 STINGRAY | G. GIALDINI | MERC 35 | 4.00 | 10-6 | | |
| 23 COBRA | S. WOOLEY | FOX 35 | 10-5 | | | |
| 24 A.A.EAGLE | D. GIERKE | OS 35 | 3.50 | 10-6 | | |



Features

Avenger Shultz

Don Shultz, (253) 857-4699

Seasons Greetings to you Tom...and to all my friends on the PAMPA wagon!

Thanks for considering running that old Avenger article that was published in AAM 74 and without question my permission is not needed. Most of the photos of the old Avenger were never returned to me...but I have negatives somewhere and a few shots taken at various contests here in the NW that I will dig up.

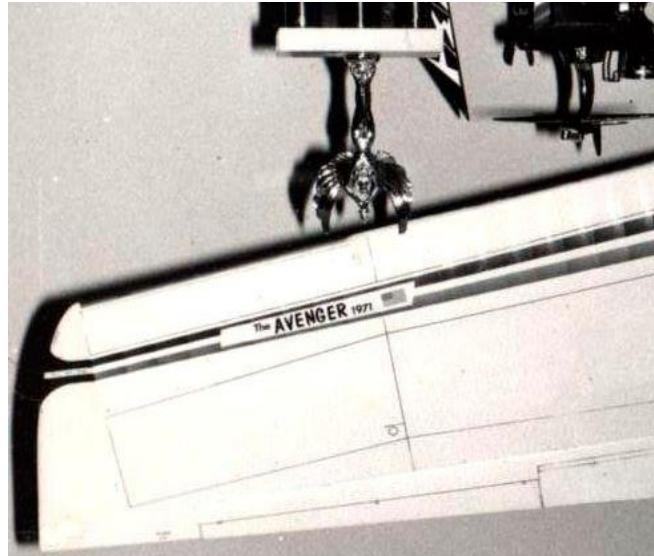
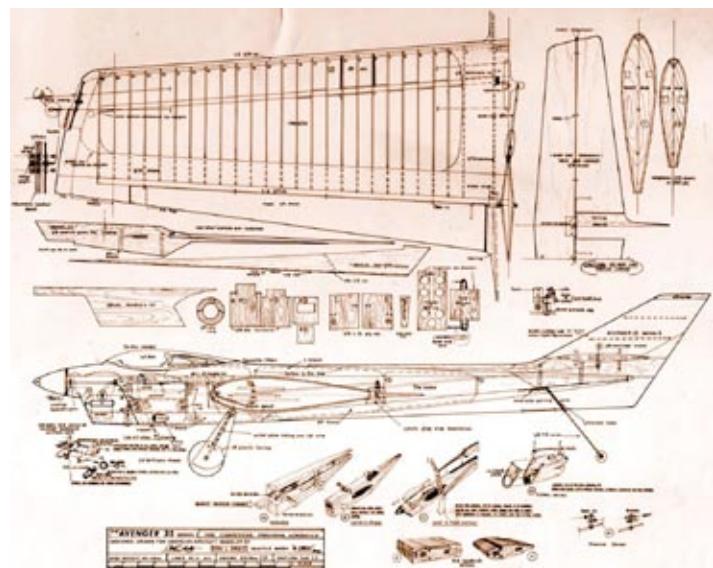
Also on www.stunthanger.com <<http://www.stunthanger.com>> in my stunt grunt of the day forum.... I also have a few shots of the plane in various modifications. Although the article shows the first model...I built two other versions...one for a reworked OS 40 and a really lightweight no frills FAI OS 35 powered concept model. The changes were very few except for enlarging the sub dorsal fin and an enlarged rudder.

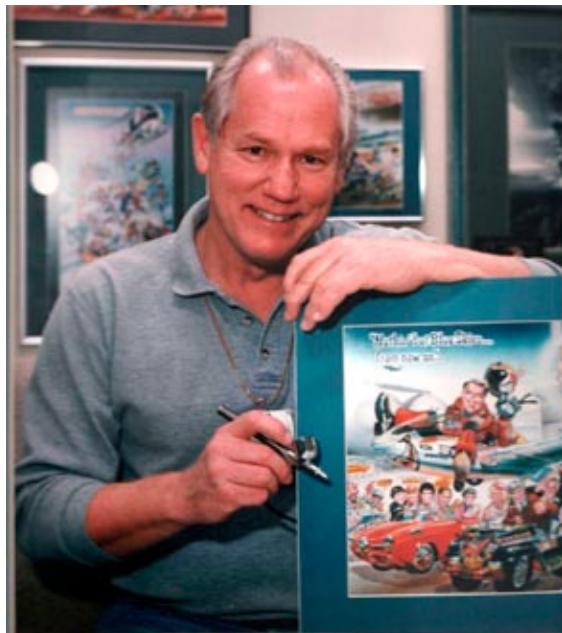
Look closely and you'll see without question.... the credit for that model belongs to my long time friend and mentor, Bob Gialdini and his beautiful award winning Sting Rays. I studied and graduated from the Bob Gialdini School of stunt model design. He made such an impression and a believer out of sooooooooo many of us.

Again...my pleasure I will send more photos after I dig them out of my old "hanger trash boxes of photos."

Regards...and keep goin...round-round-round!

- Don Shultz





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Features

Emmett's Ms. Chevy

Steve Helmick

Hi, Tom... I have acquired two sets of plans for Bob Emmett's Ms. Chevy, and was wondering if it might be published in SN? We'd need to get a CAD kinda guy to draw up new plans. This one looks pretty big, for a ST .46, but it'd need more. Anyway, I sure like it. It would be kind of a compliment to Bob Emmett too. He's helped a lot of guys get better. The plans say '77, so it's not Classic legit, of course.

Snug lines,

- Steve Helmick 



Carlisle Trim Tab

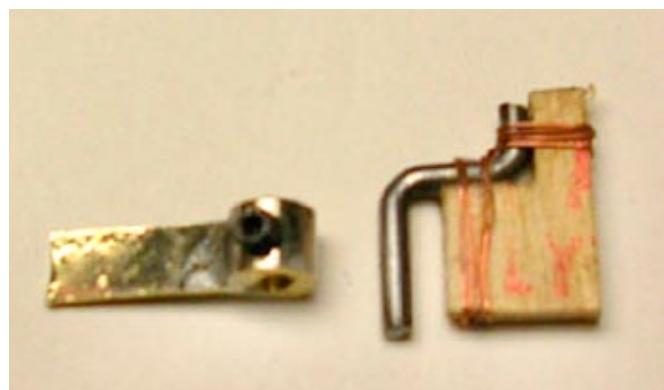
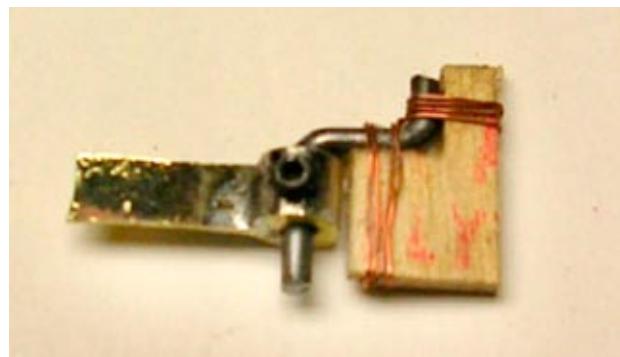
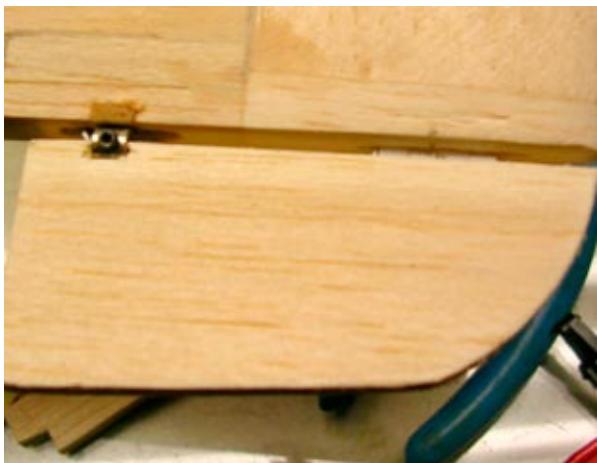
Frank Carlisle

Features

During the course of building a new stunter for the '08 season, I came upon a simple and reliable lock mechanism for an outboard trim tab. I didn't want to clutter the wing with an RC clevis and horn nor did I want to add a plastic or balsa trim tab as an afterthought if it was needed. It had to be built in. I rummaged around my shop for a few days and finally came up with what I think is the perfect solution. It consists of a snippet of z-bent 1/16th music wire and a wheel collar for a 1/16th axle.

I used a cutting disc on my Dremel tool to cut a 1/32nd slot into the wheel collar. I soldered a small piece of brass into the slot for gluing to the balsa tab. I then cut a small piece of 1/16th plywood to hold the wire. The ply also gives an excellent glue surface to hold the wire securely in place. I've included several pictures of my "Locking Trim Hinge" to help illustrate how it works and how it fits.

- Frank Carlisle 



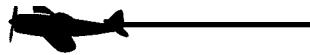


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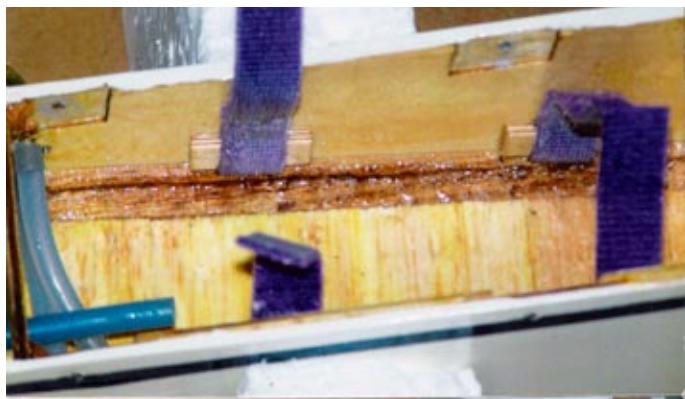


Features

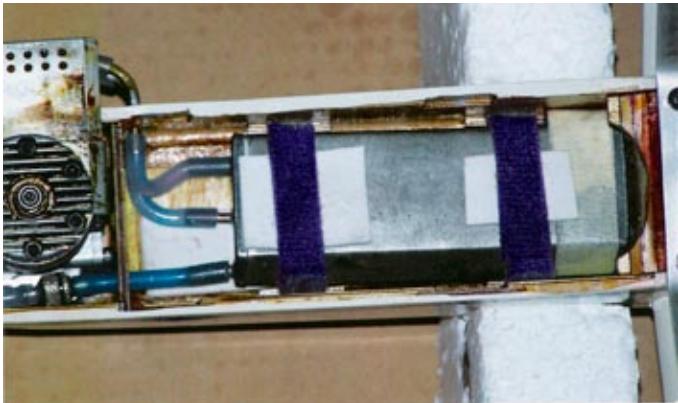


Tom,

While building/constructing my Brodak Vector last year, I devised a different style of tank installation.



This shot shows the carving of 1/8" from the tank compartment and the installation of the hook and pile straps.



This picture shows the final tank installation, with the straps over the tank, and the clean routing of the fuel lines.



(This is what it appears to be) The finished ARC Vector, Ultracote covering and trim. Power is a Randy Smith reworked OS 40 FP. Flying weight w/o fuel is 46 oz.

Innovation Tank Installation

Don Ogren

A Novel Fuel Tank Installation for Your Next Stunt Ship

Often after building and then during the trimming and adjustment period of a new Stunt job, I found that fuel tanks installations were a royal pain in the backside. A typical stunt ship will have a "cavity" into which the tank is slid, not too far behind the engine. When it became necessary to shim the tank up and down, foam rubber pieces had to be removed or added to one side of tank, in a compartment that rendered itself too small to start with, and behind that engine which was tightly screwed in place. If the tank had to come out for some reason, usually the engine had to come out also, and then be re-installed after the tank work was accomplished, what ever it was. After pondering this issue for a few days, while completing my ARC Brodak Vector, I decided to use a tank installation similar to that, which is used on electric radio control models for holding the batteries in place. A lot of the batteries are held firmly and simply in place with hook and pile type straps.

On the Vector, I first removed the bottom floor of the tank compartment so that the tank would have only the top and the fuselage sides. (An inverted engine set-up) Then, with the use of my Dremel tool, I removed about 1/8" of the engine mounts in the tank compartment, and the balsa spacer between the mounts, so that I had the capability to raise the tank by that amount, should the tank needed to be raised. I fitted a bulkhead behind the engine from 1/8" aircraft ply. (The cowl is installed from the bottom, and extends from the front nose ring, back over the tank compartment to the bulkhead/former at the wing LE.) Next, I epoxied the tank compartment, and then fabricated short 1/8" ply pieces to which I secured and epoxied the hook and pile straps in place; two on each side of the fuselage near the ends of the tank. You will observe this rework and strap set-up in Figure 1. After placing a 1/8" piece of foam rubber between the tank and engine mounts, the tank was secured by pulling the straps snug over two short pieces of foam rubber. This can be seen in Figure 2. The Vector's tank compartment is fairly long and allows for routing the fuel lines neatly to the out side of the fuselage for venting and filling, while the fuel line is led straight forward to the engine. I ended up with a very simple tank installation, that has "worked like the nuts" when I needed to go to a longer tank. And adjusting tank elevation relative to the spray bar has been accomplished in less than a few minutes, at the field, removing only the cowl.

Such a set-up as this has allowed me to remove and replace the tank, for whatever reason, by only removing the four cowl screws. The engine no longer needs to be removed. Five minutes or less will have the plane ready to fly again after tank problems are experienced. Figure 3 is the ARC "Vector", covered and trimmed with Ultracote.

I hope this idea is adaptable for your next CL stunt job, or the one that you now have under construction. Go fly, and have fun. - Don Ogren

The Ogren Zero

Don Ogren

Tom,

To answer your question: No, this is not a Dale Kirn Zero. This Zero was designed by the "Ogren" in 1957, based on my Detroiter dimensions. A far as flying goes, I found it as good as the Detroiter when it came to the pattern. Corners took a bit more effort and I contribute that to poor trimming, which I knew little about at that time. The plane was probably nose heavy.



Dale Kirn unrolls 150 ft. of monoline prior to a successful demonstration flight

Features

These are some of the pictures made from slides to a CD. The resolution has deteriorated as you can see. You'll see Bob Randall receiving his trophy for 1st place-open; then Bob with Milton Boos and Roland McDonald; Bob with trophy; Dale Kirn with 150 foot monoline; and Charles Mackey talking to Charlie Lickliter, both from Indianapolis in 1958. I'll send the slides to you, and you can pick and chose. There are more, but they are just random shots of modelers and flight line activities. I'll look them over and send what may be of interest to you.

- Don Ogren



Charley Mackey talking to Charles Lickliter and friends at the 58 NATs



1958 NATs Open top three: Milton Boos, 2nd: Bob Randall 1st; Roland McDonald 3rd



Bob Randall with his Charles Mackey designed Gobbleschwantz



VARIATION ON THE RABE RUDDER THEME And Other Musings



Al Rabe did not invent gyroscopic precession. However, he was the first to implement a practical rudder control to compensate for its adverse affect on the way control line stunt ships fly. This article is the result of several people asking for details of the mechanism I use to move my rudder.

For a normally configured stunt model with a counter clockwise turning propeller and flying upright around the circle in a counter clockwise direction, gyroscopic precession forces from the rotating mass of the propeller, crankshaft and spinner will tend to yaw to the left in an outside turn. Conversely, the nose will tend to yaw to the right in an inside turn. For various control line stunt models, this can result in reduced line tension in the outside maneuvers and can be particularly troublesome in the outside turns at the top of the hourglass and the outside loops in the vertical eights and the four-leaf clover.

For the distinctive airplanes that Al flies, he believes that the gyroscopic precession is of such significance that something is needed to improve line tension during outside maneuvers. He devised a method to give additional right rudder with down elevator by connecting a small pushrod from a small horn on the outboard elevator to another horn (not so small) on the right side of the rudder. Al introduced this method with his Mustang article published in the June 1960 issue of American Aircraft Modeler. He also further explained this in subsequent articles on the Mustant series, February 1973 American Aircraft Modeler; his Bearcat, March 1970 American Aircraft Modeler; his monthly columns in American Aircraft Modeler from March 1973 through January 1974; his Evolution of a thoroughbred articles in August 1978 Flying Models and September 1978 Aeromodeller; his "Go for Broke" article in March 1973 American Aircraft Modeler, and his article "On CL Stunt Design" in January 1985 Model Aviation. In the Nov/Dec

2001 issue of Stunt News, Al gave a recap on how he hooked up the elevator-rudder connection, showed some pictures and gave a comprehensive summary on how to adjust for the desired results. He has also shared his insight on this topic in numerous posts over the years on the several stunt internet forums.

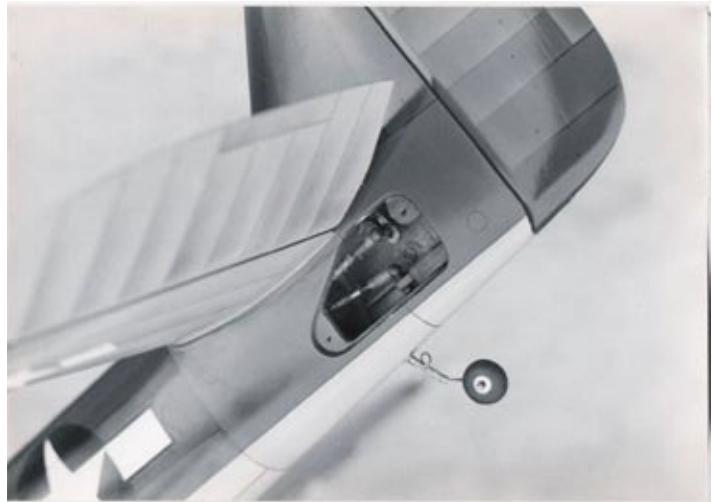
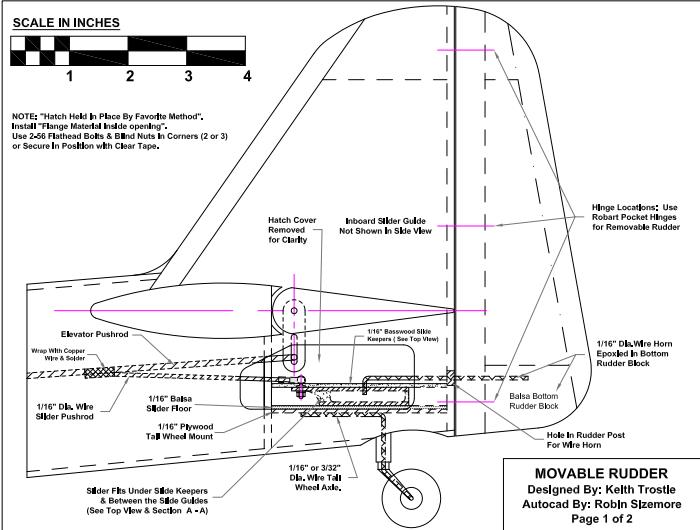
There are some very experienced and successful competition flyers that will claim that a well designed, properly trimmed and adequately powered stunt model does not need a moving rudder to compensate for gyroscopic precession. It cannot be denied that there have been many good flying airplanes that have not used a movable rudder. However, gyroscopic precession is a force that is always acting on a stunt model as it is flown through our stunt pattern. For those properly designed and trimmed models where line tension is not a problem throughout the pattern, a moving rudder has not been unnecessary. However, since gyroscopic precession forces are always present in a turn, the use of a properly configured/trimmed moving rudder system will not hurt and most likely will enhance the performance of a model that is already performing well. The only drawback is the increased weight at the aft end of the airplane to make the rudder operate. This weight is almost negligible, particularly for those who might already have an adjustable rudder for trim purposes.

When flying a model with a properly trimmed moving rudder, it is extremely reassuring to know that comfortable line tension will be had during the outside maneuvers. When Al let me fly one of his early Mustangs after 1970, I was convinced that his idea worked. I installed a similar configuration in a semi-scale model I had in the early 70's and was pleased with the increased line tension in the outside turns of the pattern.

Using Al's elevator horn-to-pushrod-to-rudder horn configuration, there several configurations that can be used to get a fairly wide variety of rudder travel with elevator deflection options. However, I felt that the pushrod to rudder horn geometry was still too restrictive to move the rudder in various ways relative to the elevators. I also did not like the idea of having exposed horns and pushrods, particularly on the semi-scale stunt models that I prefer to build and fly.

Subsequently, I devised an internal mechanism that essentially allows the rudder travel to be programmed, totally independent of the geometry offered by the external connections that Al pioneered. This is accomplished with an internal slider at the aft end of the model, just forward of the rudder post, that moves back-and-forth with the elevator pushrod. A "raceway" acts as a guide for the slider. A 1/16-inch wire control arm from the rudder engages in a slot in the slider. The slider slot controls the rudder position relative to elevator position. Depending on the shape of the slider slot, the rudder can be programmed to kick out to any desired location as well as the rate it moves relative to

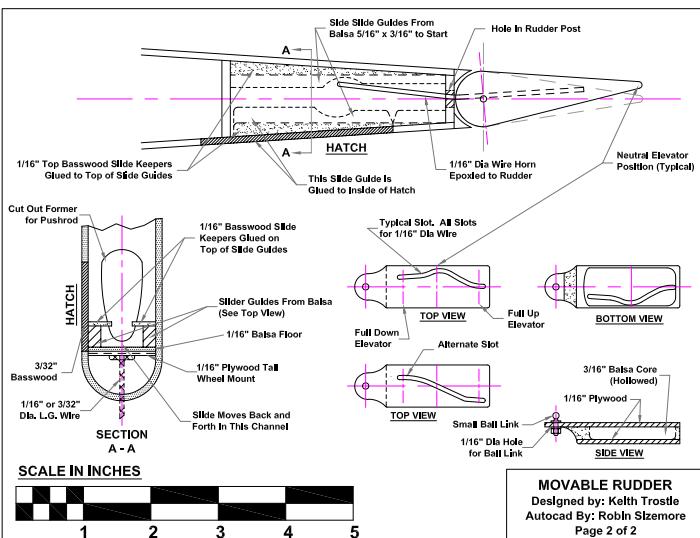
elevator travel. Rudder position for neutral elevator can be adjusted by how much offset (bend) there is in the rudder control arm.



Internal rudder mechanism in Trostle P-40Q.

well as the rudder itself needs to be wider than what would normally be found on most current stunt designs. The sliders that I have always used have been 5/8 inch wide. The drawing shows the slider should be as close to the rudderpost as possible while allowing full elevator pushrod travel. This will allow the shortest control arm from the rudder to engage with the slider thereby allowing the widest range of rudder travel.

The removable hatch has a portion of the "raceway" guides attached necessary to keep the slider in the raceway. (Removal of the hatch will also allow removal of the slider.) Fairly close tolerances are needed between the "raceway side spacers" and the slider to minimize any side-to-side play between the slider and the guides. Care must be taken so that the slider can move freely in the raceway. I use clear dope to seal the wood in the raceway and then use a very small amount of graphite powder on the slider to reduce friction.



The accompanying sketches illustrate the basics of this mechanism that was installed in my semi-scale Focke-Wulf 190D that was flown in the mid 70's. I have used this basic approach on several stunt designs and have always been satisfied with this configuration. Over the years, I have accumulated a number of sliders with a wide array of slot configurations. (I have had no fewer than 8 different sliders in my Rabe Bearcat which I have flown with some success in local contests for the past seven seasons.

The shape of the hatch on the side of the fuselage for access to the adjustable elevator horn and the slider can be tailored to suit the configuration of the model. A simple single hatch can provide access for both of these functions. Some thought is needed to make sure that the hardware to attach the hatch does not interfere with the internal control system. One method to attach the hatch is to use 2-56 flat head bolts with appropriate blind nuts. It is possible to have the access hatch held in place by clear tape, but care must be used to make sure the tape is secure.

The aft end of the fuselage forward of the rudder as



I made my first sliders from nylon or Delran blocks. These took a lot of time. Even though I tried to remove unnecessary material from these sliders, they were still heavier than they needed to be. The sliders I use now are made as shown in the drawings with a piece of 1/16-inch ply that has the slot cut into it that guides the rudder control arm. The DuBro ball link for the pushrod connection bolts on to this plywood piece. I glue on a piece of 3/16-inch balsa for this and then put some 1/16 bass on the bottom of that. I

coat the slider slot with thin CA and make sure it is smooth. The control arm wire needs to run in a smooth slot!

There will be some amount of play at the rudder trailing edge with this approach. This is due to the play between the slider in the raceway and the tolerance of the 1/16-inch wire control arm in the slot of the slider. This does not seem to make too much difference in the trimming process or on the effectiveness of the moving rudder as a satisfactory rudder travel program (the shape of the slot) can be determined.

I use Robart Hinge Points for the hinges on the rudder. These allow the rudder hinge line to be offset into the leading edge of the rudder as shown in the accompanying drawing. Also available from Robart are the "Hinge Pockets" that can be installed in the vertical tail so that the rudder is removable by simply loosening the setscrew in each of the Hinge Pockets that holds the hinges in place. (There are other ways to do this, but this is quick, neat, easy and light.)



The slot in the slider can be almost any shape you want as long as it does not cause excessive drag or restrict the elevator pushrod travel in any way. I think for the outside maneuvers, you will want the right rudder to start kicking out as soon as there is any down elevator deflection. Then as more down is given, the rate of rudder offset change can be reduced somewhat. For inside maneuvers, I have found that it is desirable to get a small amount of extra RIGHT rudder as soon as there is any up elevator travel. That is correct - I use extra right rudder on inside maneuvers, though it is a very small increment as explained below. After the initial increased rudder offset to the right with the first amount of up elevator, the offset can remain about the same with increased up elevator. That is what those slots represent on the sketches for the slider.

You might want to try something that allows progressively less right rudder for the inside maneuvers which is how Rabe has generally moved his rudders. I found my airplanes are not comfortable with this decrease in right rudder on inside maneuvers. I have compared notes with several other flyers that have employed a movable rudder that also found this additional right rudder with up elevator to be desirable. One of these people uses a system similar to mine but has a "shaped" wire that the rudder control arm follows instead of a wood slider. At the 2002 World Championships in Germany, Bene Rodrigues from Brazil

flew a Rabe Mustang with a moving rudder using external wire and horns as on Rabe's models. Bene found a pivot point near the elevator hinge line, actually within the airfoil cross section of the elevators, that gives him this additional right rudder during inside turns using a pushrod from the outboard elevator to the rudder horn. Bene said he found this position by experimenting with various locations on his computer.

If you want to assume in the beginning that you will not need much rudder differential, then a more narrow slider could be employed thereby reducing the width of the aft portion of the fuselage forward of the rudder. One slider drawing shows the rudder travel that I found necessary on the Focke-Wulf and several other designs that I have since flown. My Bearcat with its comparatively large rudder positioned well above the centerline of the model, requires that the slider only uses about half of the travel available with this slider width to get the desired response from the moving rudder. When I tried more rudder throw on the outsides (and insides) with this Bearcat, the airplane demonstrated "uncomfortable" roll and yaw tendencies, particularly when in the turn transitions in the round eights. (I attribute this unfavorable response to the comparatively large rudder setting positioned high above the fuselage.) This is the explanation for using less than half the rudder throw available by this configuration.

In my Bearcat, I found that the rudder position at neutral elevator should have no more than 1/8 inch offset at the rudder trailing edge. The slot provides about 1/16" additional right offset for down elevator for outside round loops, and then somewhere between 1/8 and 3/16" more offset for down elevator during the square corners and full down. For inside maneuvers, the rudder kicks out about 1/16 inch or less during any up elevator travel. (This does not sound like much movement, but it is effective and it works. More than this in either direction becomes detrimental!) The Focke-Wulf and several other models I have had with a more conventional rudder configuration used slightly greater deflections.

The approach described here adds some weight to the aft end of the airplane. I am willing to deal with this by keeping the rear of the airplane slight as possible and adding whatever nose weight is necessary. I would never build a stunt model intended for serious Open competition without such a system except models for OTS and Classic.

OTHER COMMENTS:

When first implementing any moving rudder system, it is important to use small rudder deflections. Excessive rudder motion will generally result in excessive yaw and undesirable roll. Some have tried the Rabe system and have found it to be undesirable. This likely is a result of using too much rudder travel to reduce the gyroscopic precession. These people dismissed the approach without understanding or experiencing how a properly trimmed system can improve performance and control feel. It cannot be overemphasized to keep rudder deflections small when starting to trim with any rudder control system on our stunt ships.



Ask Ken

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Can I try electric flight by using R/C Motors and Batteries and Stuff?

OK, I have not tried any Control Line Electrics (yet). I do have a Lil' Rascal R/C electric that I fly the heck out of, but that does not make me any kind of an electric expert. However, there are some really important things that I have already learned the hard way, so that you don't have to.

The major difference between control line and radio control electric power application, beside the obvious weight, noise, and cash, is the way you control that power. With R/C, the throttle control on the transmitter is used to adjust the RPM, as well as turn it on and off. With control line, the RPM is controlled by the in-line speed controller, and the power is controlled by both the timer and the On / Off switch. Not much of a difference, but a very important one.

When you fly your fuel, diesel, or gas type internal combustion engine, for the most part the power is controlled by a combination of compression and needle setting. The amount of time your engine runs is mostly governed by the amount of fuel that is put into the tank. Some applications of

Rabe Rudder Feature cont'd...

The sketches show the adjustable elevator horn that I use to trim the flap/elevator ratio. What I do not show are the details of the elevator pushrod that uses a ball link (from the RC car counter) to attach to the horn as well as the reverse thread couplers on each end of the pushrod so that small elevator trim changes can be made without disconnecting the ball link from the horn. (Reverse thread couplers are available from Tom Morris or Bill Byles and can also be adapted from the tie rods available from the RC car counter.) Also not shown is the way I attach the slider pushrod to the elevator pushrod so that I can turn the elevator pushrod for elevator position trimming without affecting the position/operation of the slider pushrod. All of that would be a series of more sketches if somebody is interested.

The drawings show a slotted elevator horn. I would never build a model without some means to adjust the flap/elevator ratio. Every model of a given design, weight, and power has an "optimum" flap/elevator travel ratio.

Now, we need to experiment with boost tabs, and then find a foolproof control to operate a light gear retraction system as well as a simple and positive engine cutoff.

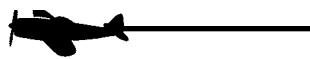
- Keith Trostle 

gas use a timer to shut off the battery, which shuts down the spark plug and controls run duration. Generally the flight goes on until the engine quits, either naturally (out of gas) or unnaturally (by contact with the earth), and that is where the major difference come in. We have become accustomed to the engine quitting when we crash, and that is not what happens when electrics hit the ground. Electrics need to be shut off (On / Off switch) before you can safely attempt to do anything with them.

The lesson I learned was to pull off the throttle on my Lil' Rascal if I didn't make a nice landing. I'm trying to avoid using the word "Crash", but I guess there is no way around it! During the honeymoon period with the little electric I made a downwind turn way too quickly and with not near enough airspeed. The resulting stall and snap-roll put it into the grass before I could react. Now I've crashed lots of times, but this one was way different. The little bird had come to rest on its' wheels around 40 feet away from me, but it was hopping up and down, and seemed to have been possessed by a jackhammer or something. What had happened was the ground contact (see, I avoided saying crash...) had cleaned off one of the propeller blades, and the electric motor was still vigorously turning the other one. I shut down the throttle at the transmitter and the hopping stopped.

Right then is when the control line lesson hit me. If there was no way to shut off the power, the vibration (at full power) would probably destroy those parts of the plane that the crash didn't. The motor may not shut down until the timer tells it to, making retrieval or even picking it up extremely dangerous. I'm not sure if anyone is working on a device that shuts off the juice if you crash or tip a prop, but there are really good power controls on the market, (I like the Phoenix ones) as well as the Zigras Timer (Windy carries them for one). Of course there are a pile of On / Off switches and devices around. Just for gee-whiz, I like to use a small RCA jack as an On / Off device. The bayonet has a tiny red "Remove Before Flight" streamer on it that lets me know the power circuit is off when it is installed (I stole the idea from the area glider pilots). The down side is that I'm the only one with the key (bayonet) to shut off the power, while a conventional On / Off switch allows anyone to use them.

On a final note for electric power, the size and type of batteries that are used can be very, very dangerous during rapid discharge, or normal charging situations. You cannot simply plug them in and leave them unattended, like we



Beginnings

Doug Dahkle, (920) 688 3203



Housekeeping correction

Two issues back, I mistakenly said that Chris Cox, Keith Varley and Gerry Boyd were PAC men—i.e., members of the Pacific Aero Club. Not so. Only Harold Youds is a PAC man. All the others are members of the Vancouver Gas Model Club (VGMC). This sexagenarian club has been in operation so long, it is eligible for Social Security. Harold is a member of both clubs. Sorry for any confusion guys.

Ask Ken, cont'd...

have done for years with our nicads. The new batteries can split, catch fire, and explode, even if you do everything correctly. I've seen all three of these things happen, as well as a modeler that kept an eye on his charging battery back, and disconnected it when he saw it begin to swell too much. He most likely stopped a fire or an explosion by simply paying attention.

The biggest problem with switching to electric power is not the new equipment, or the new procedures, or even the expense or learning curve. It is what I refer to as the "Red-Green Effect". Those of you that watch PBS, or CBC in the northern tier states, already are familiar with the *Red Green Show*. You don't have to like it to know there are so many lessons to be learned from all the things that should not be done at Possum Lodge, or any place else in the world. Even though Red does it, you can't always fix the situation with Duct Tape. Basically, the "Red-Green Effect" means that you didn't think the thing through before you started to do it, or you used unconventional means to make things happen instead

Reader input

Stunters keeps getting bigger and more scale. One current example is Chris Cox's RV-7, which is full-scale. This is because Chris and wife Joan hope to finish it up in time to fly to the Oshkosh EAA shindig in '08; 2400-mile-long control lines will be needed. Chris' Expert-level stunt arsenal hangs on the wall in the left of the pix while his trophy collection has been moved to repair foundation sagging.

Harold Youds likes his YAK-25 saying he especially enjoys the strong

of doing it correctly. To avoid the "Red-Green Effect", read and follow the instructions, and be familiar with your equipment before you try to make it work.

Can you use R/C electric equipment for control line? Of course you can. Just pay attention to the details, read the instructions, ask the questions that you have, don't proceed until you are positive that you understand the answers, and until you are comfortable with the equipment. So, where do you get the stuff? Windy Urtnowski can help, or you could try RSM Distribution. By the time you see this, RSM (Eric Rule) should have electric set-ups Ready-To-Install (RTI). Remember, this is all top quality stuff, so check the cost per flight information over using liquid fuel. You will usually find the initial expense for electric is steeper, but the cost per flight over time is much less. When you factor in the cost of cleaning materials, and the premature loss of a fuel-soaked favorite plane, electrics look even better. Remember the On / Off switch....

-Ken Gulliford 



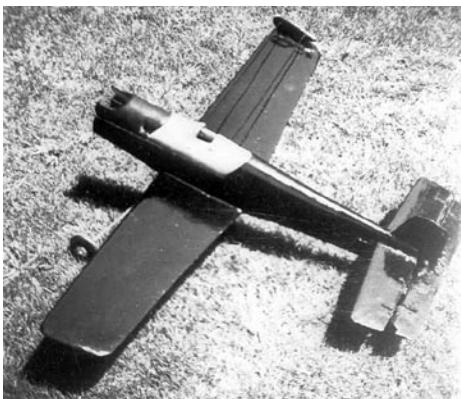
Upon seeing this pix of Chris Cox's hangar/workshop, I thought I'd croaked and gone to builder's heaven. Christ denies use of the recently-rumored, hush-hush, big-bore-banger (4-liter), Saito-Single-Cylinder X4000 (aka "the Lung") in his RV-7.

groove it has. Likely contributors to that are (1) Lots of lateral area, (2) Faster flying, (3) Lotsa wing sweepback, and (4) Some nose heaviness, a bit of which he plans to trim out as time allows. The strong groove should remain, predicts Harold.



Youds' YAK-25 being cranked up while a friend's mate cheers Harold on. Pix inset shows YAK in flight. You have to wonder, if flown with no muffler, would it then become the "Yakety-YAK"?

Also from Harold's files is one of his very first ukies, a late 1940s trainer converted to glow. Unfortunately, he's forgotten the name and I've not had the time to try and trace it down. Can anyone help ID Harold's model?



Youds' late '40s trainer appears to be a late sparkie converted to early glow. Can anyone ID this rig?

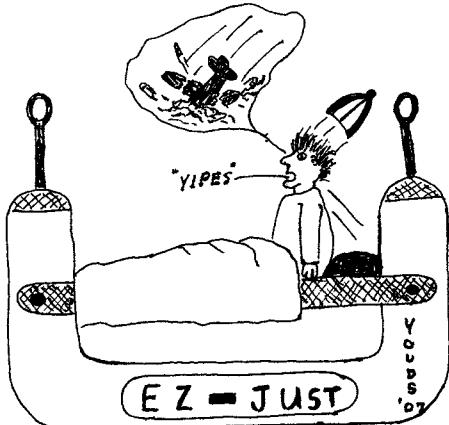
KidVenture milestone

Jim Krueger is retiring from the co-chairmanship of KidVenture after a brief 10-year run. Jim did much of the initial build-up effort developing it into what we have today. One of

FICTION 'n FACT from Doug's Almanac:

"There are tricks to all hobbies—but learn the hobby's basics first."
(d.d.)

Jim's various skills was his ability to deal with those he encountered who had "attitude issues." (You should have been in sales, Jim!) He will still



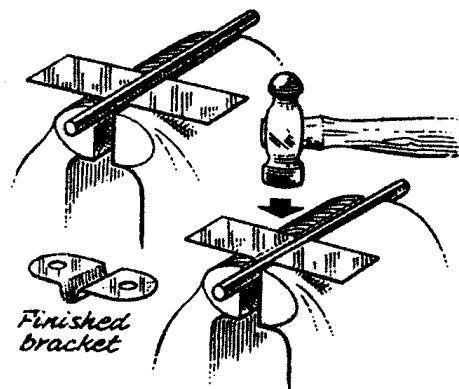
Wingright's bad day at the field caused him grief, disorientation, a crushing sense of loss and confusion over what to do next, and how. But enough about his workshop's repair area...

be present, but as a peon—like me. The flying handle has now been passed to

Don Adriano, a Circlemasters member, speed merchant and modeler of arthritic duration. Don is listed in the PAMPA Membership Roster. Thanks to Jim for his past efforts and thanks to Don for taking over this can of worms. Hope to see you there in '08!

Building tip

With the increasing popularity of profile models, landing gear straps are being produced by the billions and billions. (Well, maybe a few less than that.) Anyhow, you're still better to make your own because you can tailor them more closely to what your model requires in terms of metal thickness, strap length, etc. This assumes the gear is fuselage mounted, not in the wing.



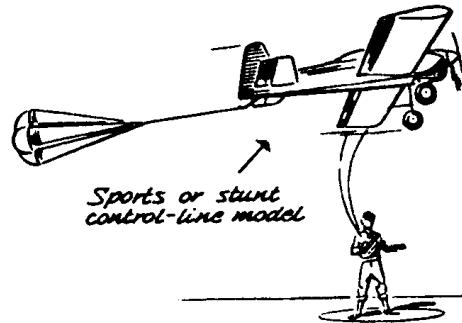
John Anderson, of Jackson, Michigan, makes landing gear mounting brackets of tin can stock. Vise jaws are set slightly wider than gear wire. Hammer to shape, drill, then trim.

Straight-line pushrod action

As we know, pushrods move in multiple directions at the same time. Those wanting to experiment with absolute straight-line pushrod action could build a lightweight version of this system.

Jet stunt

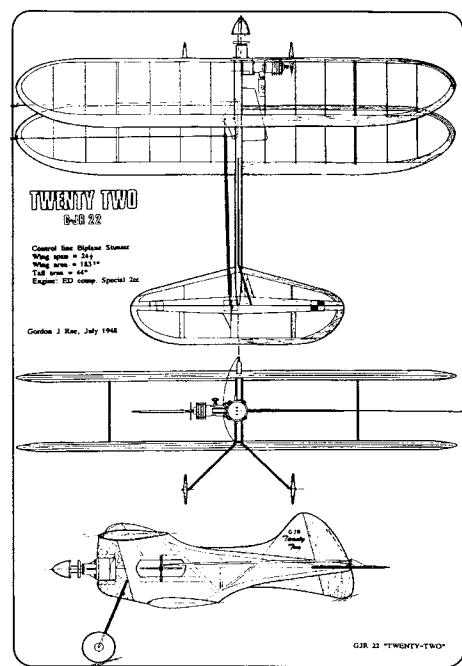
Occasionally, some folks ask about ukie jet stunt. Well, here's one of the first I've found, early summer, 1952. Others would follow. Myron's one inadvertent flight near the electric stunt crowd resulted in an instantaneous riot and near-lynching.



Bob Parazin, of Chicago, Illinois, shows how a Beginner can more easily fly hotter models that are sometimes used as trainers, via a small parachute. Under no conditions attach 'chute forward of c.g.!



Myron A. Niedert of Sioux Falls, South Dakota, shows his early O.T. jet stunter. Model did loops and wingovers at the 1952 Plymouth Meet. As the world's loudest moose call, if run near civilization, it can lose your flying field within three nanoseconds—the time needed for police to appear.



FLYING MODEL DESIGNER & CONSTRUCTION Vol. No. 11 No. 118



Building

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Keep It Simple, Build Composite Stunters - Part II

When we met last, we were discussing foam cores as a basic composite structure. I'm sure you've found, with even a small amount of research, that cutting a core is a relatively easy affair. Now for the fun part! Making the core into a useful wing! Right off the dime, several decisions must be made:

Balsa or no balsa?
Epoxy? Urethane? Other?
Glass? Carbon? Kevlar®?
Woven or mat?

Retain the core structurally, or use

it as a mold/master only?

The answer to any one of these questions will affect the others to varying degrees. The first, conventional balsa/foam, is still a very good approach. With reasonable care a very strong straight wing is assured with minimal effort. If you've followed Bob Hunt's thread in Stuka Stunt, it's almost a no brainer. I must say at this point there are areas of disagreement with my methods, but his certainly will work.

One area where there's no quarrel

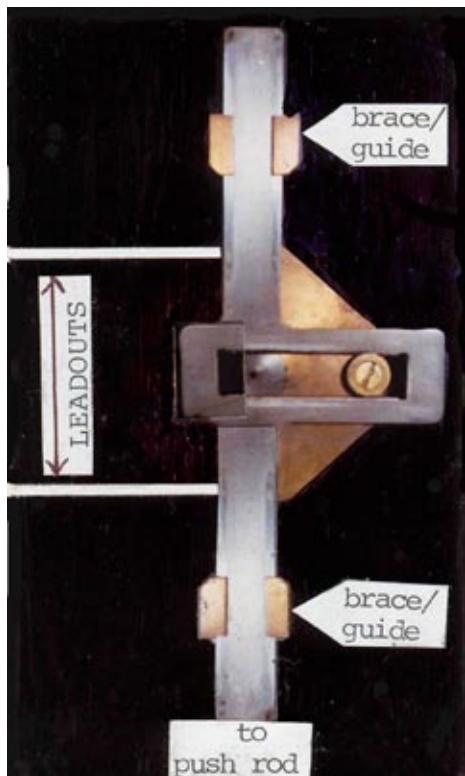
at all is that of material. 1/32"-8-12# balsa is an optimum for most stunt wings. For the same weight, it's as strong or stronger than 1/16"-4-6#, and is easily obtained from your local supplier (and you won't feel nearly as bad when you throw a few sheets away due to grain or thickness defects). It is true that you'll have to be more critical of thickness variations both within each sheet and from sheet to sheet. I typically try to get all sheets within <.005" of the same thickness. This allows all sanding to be done before sheeting the core. A major variance from Bob's procedure is that I like to make up the sheeting in one piece before applying to the core. This gives an opportunity to sand all the joints flush at one time using a long sanding bar.

Grain selection is important to making the one-piece method work. The center (leading edge) sheet must be "A" grain, as it has to wrap around the leading edge radius. The rest of the sheets can be any grain as long as they're flat. A caveat here; if you don't have a perfect join all the way along each pair of sheets do not proceed until they're corrected. If you try to pull them together to close a gap they may stay tight, but you will have wrinkles in the surface no matter how much weight you use at assembly. In making up the skins, I like to run parallel sheets from root to tip at both leading and trailing edges, making angled cuts at the tip end to fit the sheets together at the high point, ending with a triangular piece at the root center.

This gives a triangulated grain and a little more warp resistance. The picture of the "Lil' Zero" wing should explain the layout. This was a "lost foam" type wing, but the skins were done as one piece per the above description.

My procedure in edge joining is similar to most others I've read of or seen. I do like to use a balsa stripper

Dahlke Beginnings, cont'd...



The modified Scott Russel, straight-line motion bellcrank might have model use?

Flying tip

If you've ever tried to train a Beginner without a training model

being available, here's a well-proven way to slow things down, meaning both actual airspeed **and** control sensitivity. Control response is affected by where the 'chute attaches on the model; the closer to the c.g., the more sensitive, while the farther aft the 'chute attaches, the less sensitive in response. **Do not attach forward of c.g.**

M.O.M.

Our Model of the Month this issue is a legit O.T. Stunter that would likely use a Fox .15 or so. It was designed by Gordon J. Rae and really looks retro for the best of all reasons – it is retro, being designed in 1948. My suggestions are twofold: If you plan to use it for O.T. Stunt, I'd add two spars per wing to stave off warps. Second suggestion is that Beginners could build this model from all sheet. This design originally was run in the Brit *Flying Model* magazine, not to be confused with the U.S.'s *Flying Models*. While the plans show a .12 diesel, new .09 to .15 glows will work fine.

- Doug Dahlke



Lil' Zero Wing showing skin makeup

guided by a straightedge in place of a free held knife and straightedge. The stripper ensures that the blade is vertical and there's no top/bottom to the cut. After cutting, place the edges together. If any gap is discernable, sand with a long bar fixed to the bench. With the sheet flat on the bench, move the sheet back and forth against the bar until no light gap shows between sheets when the edges are in contact with no force applied. Apply a strip of masking tape to the joint on one side, and rub it down firmly at the seam. This is to ensure no adhesive leaks outside the joint to the outside of the skin. Repeat until all sheets are joined with tape. Turn the assembly over and glue the seams.

At this point you have a decision to make. What adhesive to use to glue the skin together? My three favorites each have their own endearing qualities.

Good, old fashioned, Sigmoid or DUCO, thinned 25% with acetone is still a good choice. It's a little slow, since double gluing is mandatory, but it's light, reliable, and sandable.

Urethane, Probond, or Gorilla is messy to use, but is again light and sandable. It has the advantage of swelling to fill any gap deviations (but we don't have any of those, do we?).

Thin CA is fast and strong, and if wicked along a perfect seam drop by drop, and very carefully, needs almost no sanding. Also, if the seam is well sealed by the tape, and since it need not be opened for gluing, leakage to the outside is not likely. This is a good thing, as it's big drawback is very poor sanding qualities.

As to the other choices, gap fill CA is a non-starter. It's heavy, almost non-sandable, and difficult to control in

application. Aliphatic resin is OK but has the disadvantage of being water based, leading to distorted seams unless very carefully applied. It's sanding is fair. Epoxies of any kind are not in the running for the edge gluing operation. The gluing itself is straightforward. Basic procedure for all but the CA is the same.

Turn the tape side of the skin assembly down and slide the first seam line to the edge of the work table. Hinge the first sheet down and apply adhesive. Be careful to only apply enough to coat the edge. Wipe off the excess. For solvent or aliphatic glues, allow to dry, and apply another coat. Wipe off again. Close the joint by sliding the skin back onto the table and put short pieces of tape across the seam to keep it closed while drying. Do not pull these tapes too tight, as excess tension will show up as wrinkled seams in the final assembly. You only need enough force to hold the sheets in contact. Repeat until all seams are glued, and allow to thoroughly dry. Remove all tape by carefully pulling back on it while sliding your hand along the wood behind the tape as it comes off. Using a sanding bar at least as long as half the skin width, sand the entire skin with 320 grit until no seams can be felt. If everything up to now was done right, this should only take a few passes. Don't get carried away with the sanding, remember you've only got 1/32" to work with. Turn the skin over and sand the outer face side in the same way. Mark the sides so you'll know which is the outside at final assembly. On the other hand, I guess if you can't tell, it doesn't make any difference.

Procedure for the thin CA is different in that gluing is done with the seams closed. The assembled and taped skin is laid flat on the table and the CA dripped into the seams. It helps if the work surface can be tipped at an angle in the direction of the seam. Using a small gauge teflon applicator tube, apply a drop and observe the distance it runs in the seam. Add another drop at that spot, and so on, until the entire seam is done. Do not attempt to flow CA down the seam from one end. If you do you'll invariably end up with a run outside the seam and across the sheet. Not only will you have a hard spot

to sand; you'll add weight you don't need. The trick is to utilize the ability of the CA's low surface tension to wick into and along the joint. If anything, the CA is more tedious than the others, but I have to admit it makes a nice skin when done right.

Okay! Now we have a foam core and a skin. How do we make them into one wing panel? Again we have a decision to be made on adhesive.

Contact, either spray or liquid.
Epoxy
Urethane
Aliphatic resin

Step I with any of these adhesives is to turn the skin outside up and using a foam brush thoroughly wet the center sheet only with water or a water/ammonia solution. Turn it back over and begin adhesive application.

Contact adhesive does have some attraction. It's easy, fast, and doesn't require much fixturing. On the other hand, delamination can be a problem, as can built in warps. If you decide to try this, I'll only recommend one adhesive, 3M 7084 Spray Trim Adhesive. Do not use 3M 77 (or any other "mounting adhesive") as it gets very hard in a relatively short time, and the foam fails at the bond line. To use spray contact, spray a light but full coverage coat on both core and skin. Be very careful here, as weight can build very fast with excess adhesive. Allow to dry to a light tack. Place a sheet of waxed paper over the skin on each side of the center leaving about 1" on either side of the centerline. Stand the core on the nose radius lined up with the centerline of the skin, and begin to rock the core to first one side then the other. As you rock it you'll pick up the skin a little at a time. Pull the waxed paper out with each incremental movement.

Initially try to adhere only a very small amount with each movement. As you move away from the LE you can do more at each "pickup". When you've reached the TE on both sides, lay the assembly back in one of the shucks and rub it down forcefully to get full contact and bonding. Turn it over, place it in the other shuck and repeat the rubbing. Place the first shuck back on top and weight it down with about 100 lb. of



bricks, phone books, or whatever else you have that's heavy, and leave it overnight.

At this time, epoxy is my weapon of choice for skinning foam. Again, tomes have been written about the basic method, so I'll only briefly cover my preferences. Some prefer to seal the surfaces before epoxy application, presumably to save weight by preventing "soak-in" of the epoxy. In my opinion, this gives up one of the basic advantages of the adhesive. By allowing penetration you also allow keying the wood/ foam interface, and you improve bond line integrity. The lower weight can be obtained by more aggressive control of application. This isn't hard. You start by only using *measured* amounts of epoxy. You spread it with a printer's roller to get full coverage. Then use a squeegee with a straight non-grooved edge to remove as much as you can. The surface should appear almost dry. If any gloss shows, squeegee some more.

Do the same basic "rock and roll" with the core as with the contact adhesive, only this time you'll have

much less tack working for you. This is not a big problem as, at this stage, the core will slide relatively easily in the skin. When the skin is fully wrapped around the core, grasp the top and bottom and force the core forward into the nose radius as you place the assembly in the shucks. Make sure the assembly is fully forward in the shucks so that the nose of the core is forced into the skin and the skin is forced into the shuck. Add the weight and come back in the morning.

Urethane works essentially the same; the only major difference is that it will "kick" a little faster if the core is given a *light* spray of water before skinning. If you do this, add some additional weight, as the water causes foaming and expansion of the urethane. This is a good thing, not bad, as it forces adhesive into the bond line, making it thicker and less subject to failure. Add to this the slightly lower weight of urethane re epoxy, and I may soon have a new favorite.

The final adhesive choice, aliphatic resin glue, is one some have reported using with good success.

I've never been able to make it work to my satisfaction, always ending up with voids in the bond line. Basically, it consists of coating both the core and skin with glue, allowing it to dry, then ironing the skin onto the core. This melts the two glue surfaces together and polymerizes the glue with the heat of the iron. Pretty slick, if it works for you.

After coring the interior, any of the choices above will produce a panel as light, or nearly so, as a conventional "D" tube wing. It will also be stronger in beam, torsionally stiffer, and as straight as the core it covers (and it will stay that way).

I'm going to leave it at this point as some of the refinements we need to discuss will take as much or more space than what has been covered so far. Next time I'll try to cover additional materials and some alternate structures along with some technique refinements, such as vacuum bagging.

- Ron Burn



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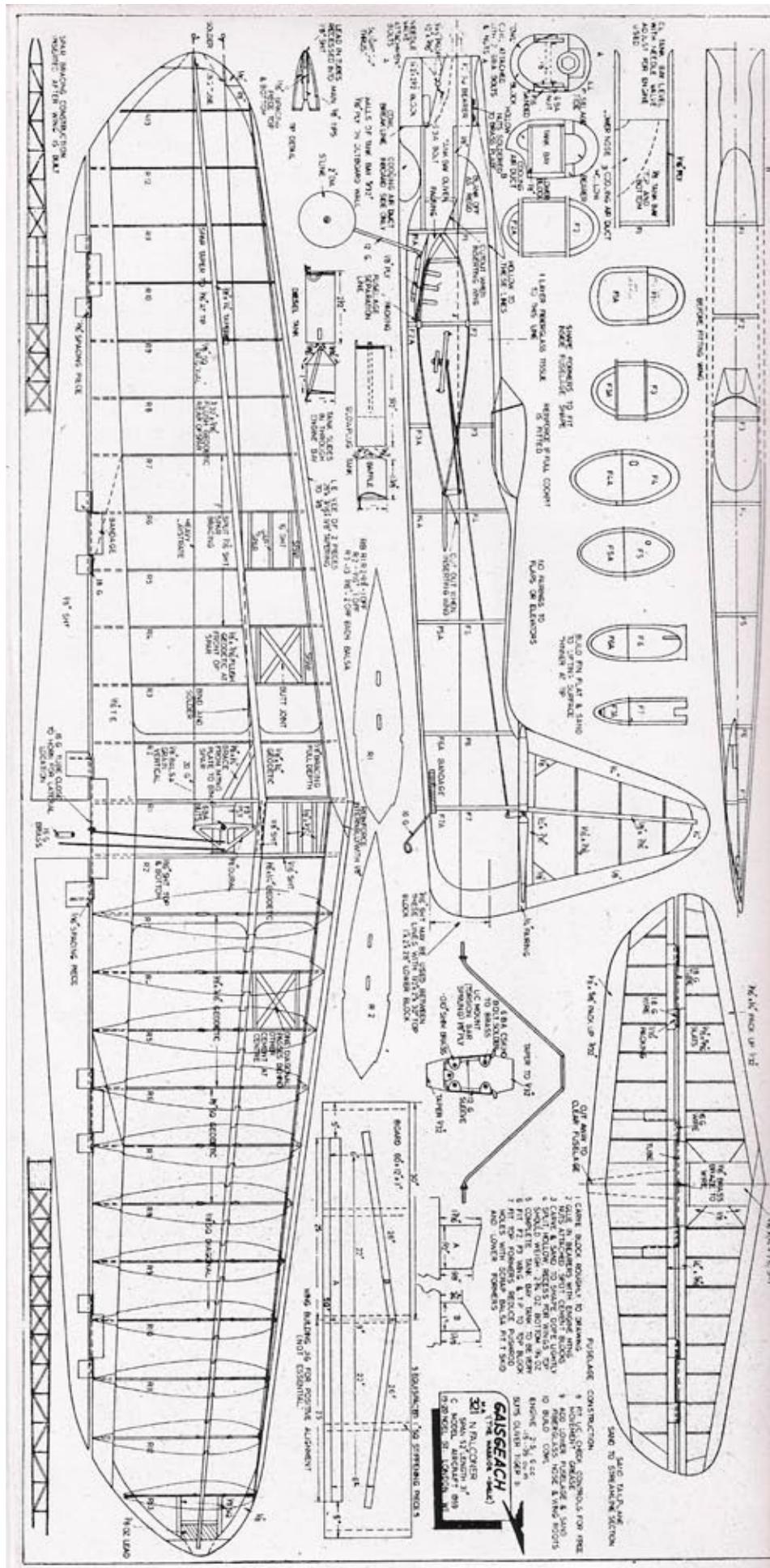
| | | | | | |
|-------------------|-------------|----------|----------------------|-------------|----------|
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| Sea Vixen | plan #CF033 | 04/66 FM | Knight | plan #CF164 | 06/69 FM |
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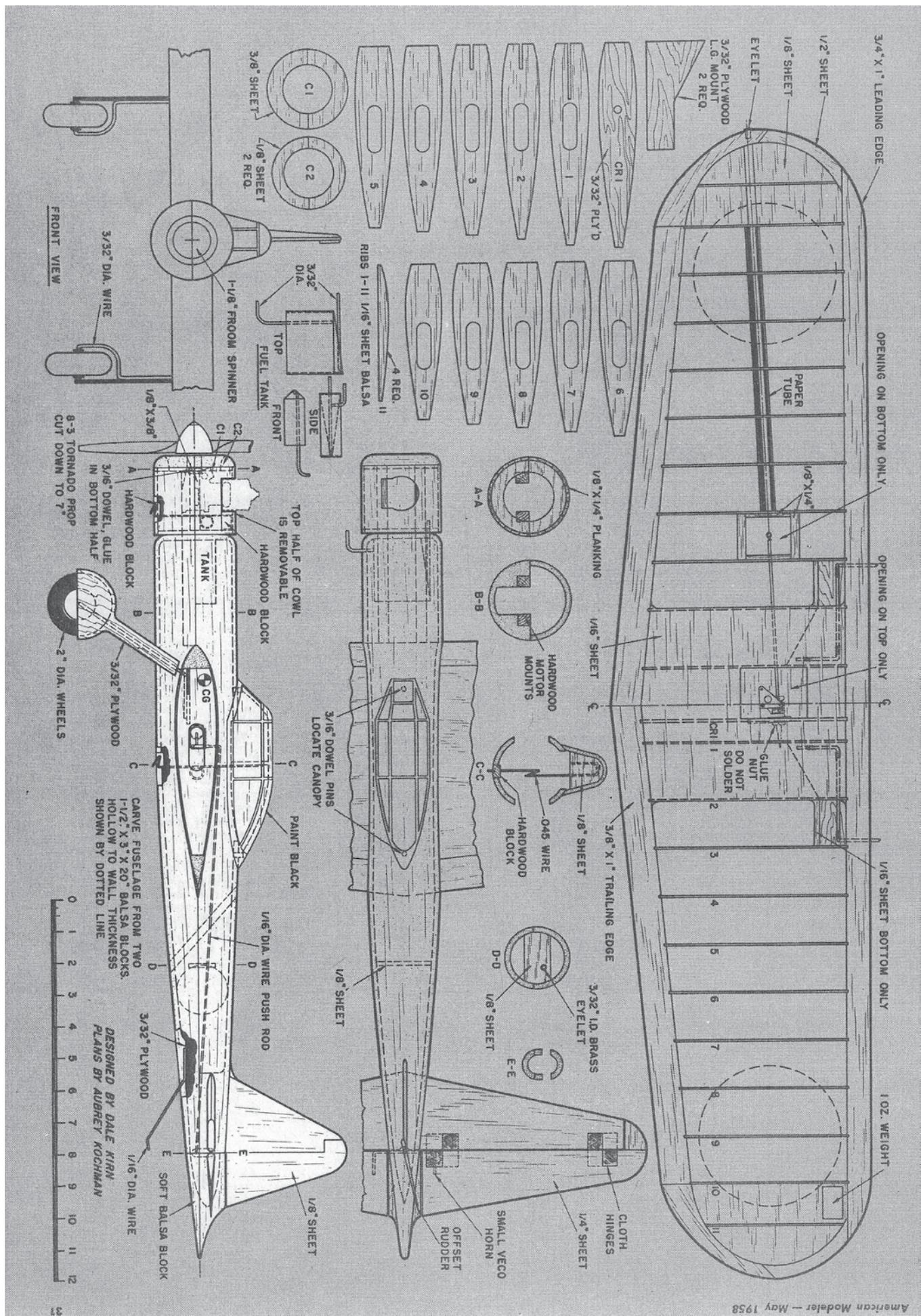
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The Gaisgeach "Gaz-gach", The Warrior - Gaelic" Model Aircraft magazine, January 1960 by N. Falconer.







Clubs

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Time for Flying Site Preparations

Since this column will run in the March/April issue of Stunt News, it will be arriving about the time many of you are starting your flying season. I'm sure that someone will be advising you to check your lines and scrape the rust off your wing-panels, etc., so that you are ready for the flying season. But what about your flying site? Maybe now is the time for a closer inspection to see if any repairs/fix-ups are in order.

Sometimes the non-flying portion of the flying season can be harder on your field than the flying portion. Since you are not at your flying site every weekend as you are in the summer, occasionally bad things happen, for example: An ATV takes a shortcut right through the middle of your flying circle leaving you with some nice ruts to fill or Little Greg the Gopher decides that he'll dig his new burrow entrance right in line with the end of your take-off strip. Oh Joy!!

NVCL club members turn out to spread 6 yards of topsoil to smooth



the flying circle. We often have more members come out for a working day than most flying days!

Here are some suggestions.... First, inspect the field. Yep, before that first flight, or better, before the first flying session of the season, take a walk

around the flying circle. Actually walk the flight path around the circle. What are you looking for? Notice anything that might take your gear off if struck during landings such as rocks, holes, and bumps from frost heaves. Hey, you might even find the spinner or wheel that came off someone's (not yours, of



course, because you are always careful to maintain your equipment! Correct?) plane last summer/fall! If you have a

concrete (or other type of) pad, is there a large rut at either the landing end or the take-off end? Now take a look at the center of the circle: anything you might trip on or step in? Also, is there anything between your take-off pad and the center of the circle that you might snag a line on? Fix what you can on the spot, but if the problems are more than a quick fix, take careful notes because now you need to organize a club work team to fix the flying field.

Note that we have marked all the low spots (and gopher holes) with traffic cones to make sure the soil is placed correctly

Clubs are funny things being made up of a variety of members. Sometimes they really surprise you in that once in a while, when you organize a work team, members show up that you hadn't seen in a while. Being a member of a club sometimes has to do more with desire than participation. People will join your club with the best of intentions, but then the job, or family responsibilities, or just plain old complacency gets the best of them and you don't see them during your regular flying sessions at the field. But you may be surprised when you organize a work group! Make sure that you call these folks and invite them to participate. They may not feel that they have the time to even put together an ARF, but they may be more than willing to show up for a couple of hours and fill holes, trim bushes, etc. to help maintain your club's flying field. This activity might even catapult them into the ranks of the participants in your club. Yee-Haa! What a great opportunity!



Here's our end result with all the low spots filled in and grass seed rolled in

- Scott Richlen

Editor's note: Sometimes free food and drink will get them there too.



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Finishing - A step by step procedure for the complete neophyte

Recently, I was talking with a friend that is doing his first dope finish in many years. He had been following a procedure written up in a magazine and was having various problems. As I talked to him, the reasons for his problems became evident. The article he was reading, while excellent, did not provide a lot of details that many of us that have been doing these sorts of finishes for years take for granted. When I was learning to do dope and paper finishes, I read meticulous, detail oriented descriptions in magazines like Flying Models and American Aircraft Modeler. Those sorts of descriptions are often not done today since the authors often believe that readers have a working knowledge.

So, I decided to write up what is probably a windy description of how to do a dope and paper finish and try to include a lot of stuff that isn't immediately obvious if you have never done one. Keep in mind that it's a learning process. I am still altering my technique and adding or subtracting steps with each model as I learn new things. What I plan to provide here is a basic and largely fool proof method that will in most cases work as painlessly as possible. It may not be the "best" way and certainly is far from the only way to do it, but it is a method that has a very good chance to be successful and result in a finish that the builder will be proud of.

So, why all the qualifiers? Well, finishing with dope (lacquer) tends to be a "by feel" sort of process. Unlike a lot of modern urethanes and water based paints, it's a good deal more susceptible to changes in conditions. High humidity, big temperature fluctuations and other elements can have an adverse effect on the outcome. So one of the things I'll talk about is monitoring these conditions. Lacquer

can be somewhat temperamental and knowing some of its quirks can help to overcome problems. This is primarily written for those that have little or no experience with this sort of finishing system.

Finishing a plane is like being an artist. While there is certainly a good deal of science involved, it's mostly art and about what appeals to you. As I was once told, no finish is ever completed, only abandoned. At any particular phase, work at it until you're happy with it. Talk to other people, look at pictures on the internet boards of planes in progress, take a look at planes you admire and talk to the builders. Pick up what tips and tricks you can and try them. If they work for you, keep them. If not, discard them. But don't be afraid to try stuff (preferably on a test piece). The point is to get a sense of what is "good enough". How far you go past good enough is up to you. Some folks want to create museum quality works of art without flaw or imperfection. Others, while they want a generally good looking plane, mostly want one that is serviceable. What you want depends on you. Generally speaking, perfect is heavy. There are those that can build a light structures and put on a near perfect finish and still end up with a competitive, light plane but it takes an enormous amount of patience and practice, often over a number of years, to develop the skills needed. As you are learning to do this over a series of planes remember; you'll be happier with a good quality finish that is light than a near perfect finish that results in an overweight, non-competitive plane.

Target weight: once the plane is complete and ready for finish, it's time to see what your finishing budget is. Hopefully, you know what the target weight is for the plane. If you are building, say, an Impact, you know up

front that it should weight about 62 oz when done. A couple of ounces either way, while it has an effect, is within the weight target. So, take the completed airframe, put all the flight hardware on (engine, spinner, prop, tank, gear, whatever - everything so that it is ready to fly) and weigh it. Again, using the Impact as an example, let's say that it weighs 50oz, ready to go. OK, so now you know that you have a 12oz finishing budget. The complete finish from bare wood to buff needs to be 12 oz or less.

I'll talk about products that I use as I go along. These are not the last word in finishing materials, just what I use that has been successful for me. When appropriate, I'll try to outline other stuff that I'm told works well, but I can only vouch for the stuff I use. So, let's get to it.

Preparation - It's All In The Setup

You'll often hear that good finish starts with the first two pieces of wood you glue together. And this is true, for the most part. But not all of us are master builders, though we do our best and try to improve with each model. The one thing you want to insure is that you have a smooth and as unblemished a surface as possible to start with. You will also hear the famous phrase "sandpaper is your friend". Also true, but when using sandpaper, try to make sure that as often as is humanly possible you are using it with a block of some kind behind it. I have probably 40 various sanding blocks on my bench. Many made for specific purposes, cut to various shapes and sizes. While some who have many years experience can use a naked piece of sandpaper and sand by touch, it an art that does, in fact, take many, many years to acquire. So it's best to use some sort of backing

on the sandpaper. The ultimate point is to have the smoothest and best joined surface you can produce before you start applying paint. I should note that I don't put on fillets until after the plane is covered with silkspan. I've had a lot better luck if I avoid putting silkspan over fillets. So I put on silkspan after the plane is covered. Besides, it helps prevent digging into the surrounding balsa when you are sanding the fillets out.

One thing I should mention is conditions. Generally, there is a fairly wide berth you can operate in doing lacquer finishes, but it's not endless. Temperatures from 55F to 75F with humidity in the 30% to 60% range are usually OK and you don't need to take any special precautions. If the temp gets above 75F, you might want to think about using some retarder in the clear dope. Not so big a deal at this stage, but as you move on, it's a good idea to use a bit of retarder to slow down the reaction. It becomes especially true when you are using a spray gun since the paint can begin to dry before it hits the surface in overly warm conditions. Never use more than 10% retarder and you probably only need about 4 or 5%. It's a matter of just how hot it is.

I bought a quart of Brodak's retarder a number of years ago and still have most of it, so you can see you don't need much. The other thing to consider is relative humidity. As the humidity goes up, it takes longer for dope to dry. This can be a real problem when painting trim. It's important to paint in as dry a place as possible. I sometimes use a de-humidified in my paint area. Excessive humidity can cause all sorts of paint problems including adhesion problems, blushing (a sort of white fog that appears in the surface caused from trapped water vapor) and matting. So, if you have to paint in humid conditions (particularly in humid and cool conditions), take care to reduce the humidity as much as you can. Make sure it's warm wherever you are painting and if you can, de-humidify the air. Lastly, let the paint dry. This

can take a long time is it's particularly humid.

Let's see, what else? Safety. When working with paint, whether lacquers or urethanes (or epoxy for that matter), be sure to take reasonable precautions with your health. I buy latex gloves at the auto paint store in boxes of a 100. Use them! Not only will you cut down on finger prints and oil in your finish, you will prevent absorption of chemicals into your hands. It's just a good idea. When painting, use proper breathing protection. I have a standard and relatively inexpensive organic filter breathing mask. I also have a set of filters for it specific to iso-cyanides. And those get changed out every couple of sessions. If I'm shooting something like catalyzed polyurethane, I do it in a very well ventilated area. Some paints like

finish. Once I'm happy with the overall surface, I take a damp cloth or paper towel and wipe the whole thing down. Don't get the structure soaking wet, just barely damp. It will force all the grain that you mashed down sanding to come back up. Make sure the plane is completely dried out, then take some 600 open coat paper and lightly sand the wood. Here's where you get to practice your touch. Use the bare sandpaper with no blocks and lightly (that's lightly, as in don't press down much) sand the structure, concentrating on just taking the raised grain off. Once you're done and happy with it, you can begin the actual painting. Below is a picture of a classic plane I was working on that is ready to begin finishing. You can see the little fixture I made to hold the plane.



lacquers are toxic, but not aggressively so. Other's like many catalyzed paints, are really nasty and you need to protect yourself. Follow recommendation of the paint makers and stay safe. Don't take chances with your health. OK, I'm off that soapbox. Hopefully, you paid attention.

Once the plane is built and "ready to finish" I generally sand the entire structure with 320 open coat, aluminum oxide or aluminum sterate paper. It's nice because it doesn't load up easily and produces a smooth

It Starts at the Beginning

As with each step, there are some things to cover up front. I use a free standing setup to finish a plane. A plate bolts in where the engine will go, a dowel is bolted to that and the dowel mounts on a unit that is clamped to the bench. I put the plane in this setup as soon as it's in one piece and it pretty much stays there until it's finished. It allows the plane to hang out in the air, letting you rotate it and easily get to everything. I also make little jigs to hold the control surfaces, cowls,



wheel pants and whatnot in the air. For control surfaces, I just use some scrap balsa and some 1/32" plywood strips that fit into the eventual hinge pockets on the control surfaces; again,



allowing the control surfaces to hang in the wind. Various little jigs are made to hold pieces in the air for paint. Also, tape off any areas that you don't want paint on like the canopy, leadouts and control horns. And it's a good idea to periodically change the tape out so that you don't get a lot of paint buildup on masking tape. You will also have less problems with the adhesive getting melting onto your nice, tinted canopy.

OK, so on we go. I use Certified or Randolph's brand clear dopes. You can get them from aircraft supply stores like Aircraft Spruce or Spencer's. I buy non-taunting dope by the gallon and high shrink dope (this is usually designated as full strength or just dope) by the quart. I usually get the non-taunting stuff in un-tinted clear. I get the full shrink stuff in a tint, usually blue or amber. Makes it easier to tell them apart. I also get Certified dope thinner by the gallon. Usually takes about 2.5 gallons to thin one gallon of dope. But you can just as easily use Brodak's dope or Sig Supercoat (full strength) and Litecoat (non-taunting) or whatever. When I talk about mixing dopes, I am talking about the straight Randolph's or Certified. I'm not as familiar with the solids contents of other dopes and so, can only say, use as you see fit. One note: Some guys use nitrate dope for base coats and butyrate dope

for top coats, but I tend to stick with butyrate from the wood up. Nitrate has a higher solids content generally and many believe that it provides better adhesion, but I've used butyrate

only for a long time with out problems so I haven't felt the need to change. To each his own. If you go with nitrate for initial coats, remember:

you can put butyrate over nitrate,

but not the other way around. The other note is, I will probably use the terms dope and lacquer interchangeably. Dope is a type of lacquer, but not the only type.

I use a 1" artists brush (camel hair if you can get it) and brush on a coat of un-thinned, non-taunting dope on the bare airframe. The stuff is pretty thick, but goes on easily and if it's not too cold, will flow fairly well. Put on 2 or 3 coats on the smooth surface. Don't sand. You want to maintain as much of the solids in the wood as you can at this point. If you did a good sanding job (including the damp wipe), it should come out pretty smooth. If you have any substantially raised grain or rough spots, sand those out and hit the area with a bit more un-thinned dope. Once it's pretty dry, you can start thinking about silkspan.

I use SGM silkspan pretty exclusively these days. Some use GM or OO, but I've learned my lesson. There is an insignificant weight penalty using SGM and the stuff is so much easier to work with overall that to me, it's just not worth messing with anything else. Much less chance of sanding through on the edges of cap strips and such and a much tougher and more stretch resistant surface . Recommended. Some use materials like Polyspan and similar stuff, but my experience with

these is limited . If you are interested in alternative materials, talk to people that use them and find out the tricks involved. Covering with silkspan is really an art as it turns out. The process is pretty straightforward, but it does take some practice and a certain amount of feel and technique. I'm sure there are 10 different ways to do it, but I can only outline the one I use. Like anything else on an airplane, the less you can use, the better, so try to limit overlap when laying the stuff down. When wet, you can get silkspan to mold around corners and do compound curves pretty easily. I usually cut out the silkspan in the approximate shape I'll need. Remember that it expands when wet. For wings it's pretty easy. Lay the sheet of silkspan over the wing and use a pencil to outline the wing on the paper. Lay it out on the bench and cut it. I lay the silkspan piece on the wing, then use a squirt bottle with water to wet it. Once damp (not soaking, damp) I start with the wing root and make sure the piece is smooth over the root area then pull it out spanwise , smoothing it out as you go. You want to make sure at this point that all the wrinkles are out and it's pulled fairly tight. Don't get carried away, just make sure it's snug. Once you get there, use a small (like 1/2") brush and dope the edges where the silkspan contacts the leading edge, along the root area, around the wingtip and along the trailing edge. Just use enough non-taunting dope to insure the thing is glued down. I will sometimes use my finger along the edge to insure that there is good contact with the wood.

Let it dry out with the edges left hanging off the wing. You can use a hair dryer to dry it out quickly, but I believe you are better off to just let it dry. I think that using a hair dryer (as some do) can make the thing shrink unevenly and cause unintended warps. Once dry, use some 320 sandpaper to sand along the edges hanging off and cut the paper. This leaves a ragged edge that will blend with the paper from the other side of the wing.

This is a principle to remember. Scissor cuts stand out, are very hard to fill and can lift. Better to rip the paper along the edge. This is especially important when doing solid wood

surfaces. Fitting pieces together on the fuselage is like putting together a jigsaw puzzle. Use the biggest pieces you can and make sure that they slightly overlapped, but don't cut edges with scissors or a knife or whatever any more than absolutely necessary. Better to rip the paper along the overlap. Get it cut (or ripped), wet it on the plane with a spray bottle and pull it out snug. Then just dope the edges. Once the entire airframe is covered with silkspan this way, it will only be attached permanently to the airframe by those doped edges. Part of the reason for this is to trap as little water in the dope as possible and leave an egress for the water trapped in the edges you doped down. Easy to see as those areas where water is trapped because turn milky white. So minimize this as much as possible. Over a day or two, the water should exit.

Once it's all dried out and the silkspan is taunt everywhere, you can jump to the next step. One note, if you have areas that are still wrinkled like the wing tips or around the nose or something, it's a crap shoot on how to proceed. The wrinkles may pull out with the next step or they may not. If this is going to be your next Concours D'Elegance winner, then you may want to cut those areas out now and recover them, but it's up to you. Most times, I've had areas like this pull out when the first coats of full shrink dope are applied and sometimes they don't and I have to cut them off anyway. If you do it after the first coat of dope, it's perhaps a bit harder to get the patch to blend. Not a big deal, but like I say, it's your choice.

OK, so the covering is all done and the wrinkles are out and it looks like a really strangely shaped dry teabag. You're ready to move on. I generally used only one coat of full shrink dope at this stage. Lay it on with that 1" brush un-thinned. It will feel like your troweling on mortar, but works out OK. If you had some wrinkles that you decided to see if they would pull out, then it's not a bad idea to cut the dope by 20% or so with whatever thinner you are using and hit those areas with wrinkles separately. The evaporation of the thinner will often help to pull out slight wrinkles. A couple of notes

here. First, a caution. Whatever thinner you have elected to use, use it from the wood up. Don't switch to another product in the middle or you're just asking for trouble. In spite of what you might think, paint manufacturers go to great lengths to match reducers, thinners and catalysts to the paint they produce. You are always better off using the products made for the paint you are using and sticking with it until the end. But even if you change paint brands in the middle, don't change thinner or you will be begging for adhesion, blending and related problems. Some very respectable builders use cheap thinner or change in the middle and get away with it. But sooner or later, it will bite you. Get in the habit of using the right materials. Second, allow sufficient drying time. Just because the surface looks dry, it's not necessarily true that it is. Dope takes at least 24 hours to initially gas off. Longer if it's cool or there is a lot of humidity in the air. Doing a lacquer finish is about building up layers. If you move forward too quickly, you run the risk of melding the layers together and causing undercoats to soften enough to cause problems with warping, separation or sagging.

OK, enough growling. As I said, doing a dope finish is more art than science. You have one coat of the high shrink, un-thinned dope on the covered airframe. Initially, the paper will sag all over the place when it's wet with that first coat. Don't worry about it. Just let it set and dry and it will tighten right back up. This will happen in successive coats, but to a much lesser extent. After a few coats it will stop doing it. Once that first coat of high shrink dope is on and it's had AT LEAST as day to dry, you can start putting on additional coats. I change from the full shrink stuff to non-taunting at this point. Some guys will put on 2 or 3 coats of the full shrink stuff. Opinions vary. Use your judgment. Brush on 2 or 3 coats of non-taunting dope without sanding in between. Just brush it on, letting it dry for 12-24 hours in between coats (now you know why dope finishes can take so darned long). Once you get on the 3 or 4 coats on the raw paper, you can see that the covering is shiny in places. Those are the areas where the paint

has filled the grain of the paper. It's a good idea to re-coat areas that are not quite filled to insure good coverage. At this point, you should have the paper mostly filled with paint. And I saw you pick up that sandpaper. Put it back down. No sanding yet.

Hopefully, you listened to me before and didn't put on the fillets before covering. Now is the time. There are many wonderful articles on application of various types of fillet materials from leather, to balsa to various epoxy based materials to whatever. Use what makes you happy. Apply the fillets, sand them down and feather them into to doped finish. Only comment here is, whatever you use, make sure before you start slopping primer on the airframe, that you're certain the fillet areas are clean. Clean them really well with alcohol or ammonia (or both) ... do it twice and use those latex gloves. Then resist the temptation to run your finger down them after they're clean. One of the biggest frustrations in finishing is when fillets lift (little bubbles pop up along the fillets). Really clean fillet areas prior to putting on filler/primer is essential to avoiding this horrible and frustrating outcome.

As a side note, I use PolyFiber's SuperFil for fillets. I like it a lot and there's a link below on where I get it. There are other places it's available, too.

Ok, that's it for this time. Your plane should be ready to primer. Next time I'll go putting on filler/primer and get the fun part. Putting on color. Remember, this is supposed to be fun. If you have questions, please feel free to contact me.

- Randy Powell



Electric Flight

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Back to Basics - Part 2

Electrical Connectors

We are going to continue our discussion of basic things that need to be known when considering electric components. Last issue we gave an overview of the various components that make up an entire power system and how they interconnect.

This issue will give you some advice as to what type of connections that are on the market to inter-connect all these components and the pros and cons of each type. My observations are based on real world use over the last four years. The choice you make is, like everything else, will be subjective and personal.



Bullet

The motor manufacturer sometimes supplies this type of connector. They come male and female, and usually are gold-plated, so they form a good electrical contact and reduce corrosion failure. They are usually pre-soldered at the motor end, and you will have to make a soldered connection at the electronic speed control side. Usually shrink tubing is applied over the soldered connection up to the face of the "bullet", so shorting out by contact with each other is minimized. They fit quite snuggly so they would never work loose in normal usage. The only time you would remove these fittings is if you needed to change the motor or

the ESC. If they are included, use them – they are fine for the application.

ADVANTAGE - Good solid reliable connection, High amperage tolerant, inexpensive, very firm fit, so will stay in place.

NEGATIVE - Requires soldering of the leads and enclosed with heat shrink tubing, to prevent shorting out with each other.



DEANS

Deans connectors are being used by several battery manufacturers, and have become a somewhat standard with some accessories, like parallel connectors for 2 motor applications. Eagle Tree uses them on their flight measurement circuit boards, for instance. They are reasonably priced, seat very well, but must be carefully soldered and connections heat shrunk. They are built physically so that you could never hook them up incorrectly

and are relatively small, so they do not take up a lot of space inside the model. They are used to connect the battery to the ESC, as they are a two lead connector.

ADVANTAGE - Small footprint, reasonably priced, firm fit, cannot hook up wrong, can take high amperage

NEGATIVE - Must have good soldering expertise – true with all these connections that require soldering.



ASTRO ZERO-LOSS

These connectors come in two pole and three pole designs, which means you can use them for the three wire side of the motor to ESC connection, and the two wire ESC to battery connection. The two wire design can only be put together one way, which eliminates accidental reversing of the wires. The three wire connector can be rotated 180 degrees between motor and ESC which changes the direction of the motor. (Reversing any two leads between the motor and the ESC will reverse the motor direction in use.) That used to be a nice feature, but today, most ESC's in their setup program, have provisions for reversing motor direction without having to touch anything in the system electrically. These connectors are expensive and the clearance of the poles within the plastic housing is very close and concerns me. Your soldering technique has to be perfect in order for the poles to be force fitted in to the plastic housing. These poles look like the "bullets" described earlier. If you get too much solder on the joint, they will not fit in the housing and you will have to file it down until it fits – which could be irritating. These connectors slide in and out easily, and while I've never had any disconnect due to vibration or G-forces, I have systematically taped them together with black vinyl tape, to be sure they

do not, which is also inconvenient. They are gold plated, and can handle sustained high amperage. Our systems employ amperage of about 30 amps or less, constant, so all of these connectors in discussion are almost overkill in our application.

ADVANTAGE - High amperage tolerance, easy assembly / disassembly, small footprint

NEGATIVE - Expensive, needs very careful soldering technique, maybe comes apart too easily.



APP POWERPOLES

These are the only connectors you need not solder. You can if you wish, but you can also buy a crimping tool, which is the expensive one time part (\$50.00). What I like about the crimping tool is that you have a solderless connection that will last a long, long time and you can do it without electricity on the field, in less time it took me to type this sentence. The powerpole connectors come in various amperage sizes, but the 30 amp size will satisfy all

of our current applications. They go together easily, and again, maybe too easily. They are color coded, red and black for easy identification and they are inexpensive. So the big expense is the tool, but it will last forever. It looks and feels like it has been built to military standards.

ADVANTAGE - No soldering, field friendly, amperage tolerant, inexpensive easy connect - disconnect.

NEGATIVE - slightly larger footprint - maybe of concern it tight quarters, fit maybe too loose unless taped.

One time tool expense of \$50.00 for crimping wire to connector

There are other connectors getting introduced into the market. Many manufactures are using their own variations of the theme. They do this to lock you into their products, so that you will be tempted to buy their motor for their ESC and their battery. And that is fine as long as all three really fit your needs and your application. But you will see that more and more. In the meantime, consider these remarks to help you make a good choice for your design.



NEW STUFF

Randy Smith @ Aero Products is making available a new timer from Japan. I just opened the box and checked out the features. It seems to have all the essential features of the JMP, and maybe a few more tricks. It uses a little black box similar to what some ESC's have in programming their parameters. It looks promising, and I'll look it over carefully and give you a detailed critique in the next issue.

See you at the field !

-Will Moore

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Pampa Rules

Alice Cotton-Royer, alice@artemisillustration.com

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Hi all,

I got this letter in response to my diesel articles. Check it out diesel lovers or those who may be considering it. I sure am glad we added the new diesel rule (**8.2 Diesel engine bonus**). A bonus of 5 points shall be awarded for use of an operating diesel engine) so these guys can compete. Although from what I am hearing, perhaps the 5 extra points aren't needed! HA! Maybe the 5 points are for GUTS not POWER SYSTEM! Enjoy...

Hi Alice,

I have been reading your articles on diesel powered models for the past few months with interest, and after reading Nov/Dec issue of Stunt News I thought I would share my interests in diesels as well. I don't know if any of what I have typed here is of any use for SN but here it is.

I have been using solely PAW diesels in my models for quiet are lot of years now, I'm only a social flier and fly combat using the PAW 15 ball raced combat tuned diesels which are a very strong performers, but with all PAW's this type of motor still has the easy handling and starting characteristics as all the other set-ups.



I have also mailed you pictures of a couple of my 15 size stunters that I built a while back which are PAW diesel powered. One is the Jr. Nobler

and the other is the Baby Bird which is basically a reduced size version of the famous Thunder Bird.

The upright open cowled configuration of the Jr. Nobler works very well with the diesel and I have never had any problems with engine runs on any manoeuvre that you may put it through.

The Baby Bird on the other hand with the inverted tightly cowled engine set-up is a little different in that it's harder to start from cold as priming can be awkward due to access.

Some people might think, well, team race models are fully cowled inverted motors and they are very reliable starters and yes they have to be due to the nature of the event.

The reason being is tank position, TR models have the tank high and so the fuel feed is above the spray bar so you have gravity fuel feed straight to the motor. As us stunt people know, we have the tank and spray bar in alignment for consistent engine runs when flying level or inverted, so we lose that luxury of gravity feeding when starting.

What this means is that my helper needs to hold the model inverted so as to prime the motor using the prime bottle and start and adjust in this position also. The internal configuration to the cowl also closely follows that of team race model to avoid serious overheating. Basically you will have a full depth air inlet with the internal side walls about 0.8mm to 1.0mm clearance away from the cylinder, this will force the cool air in between the cooling fins for optimum cooling then this now hot and expanded air needs to leave the cowl through and outlet 30 to 50% larger than the inlet.

As Mick Taylor (see previous SN article) has already stated, the best overall set-up would be the side mounted position.

I'm currently building the SIG Banshee that will be powered with a PAW 35.



Another point of importance to take notice of when using diesels is that they are heavier than glows, especially if you're considering building a well-established type of vintage stunt model that was based around say the Fox 35.

The Fox 35 motor must be close to half the weight of the 35 diesel. So one must make small changes to maintain correct CG of model.

With the Banshee I have shortened the nose by 1/2" and added 3/4" prop driver extension. This has basically moved the motor position by 1 1/4", which I hope will stop the use of a fair bit of lead in the tail if left unchanged.

I do hope this is of some use to you Alice and I would appreciate a copy of the PAW article that was mentioned in SN.

All the very best for the New Year, hope to hear from you soon.

Thanks & regards, Steve Betts

-Alice Cotton-Royer 



Repairs

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Crash Repairs

Stevie MacBride had the unfortunate luck of crashing recently, but wound up doing an amazing repair. I was extremely impressed with his efforts. In the past we'd talked many times about "saving all the pieces," and he did, which helped expedite the repair.

Elliot Scott crashed his ARF *Cardinal* and was unsure how to put the wing halves back together. We used fiberglass cloth and epoxy to do the structural repair after peeling back the Monokote to ensure that we were gluing to solid wood only. That repaired ship is still in service today, and many other people still enjoy flying it regularly.

The two basic elements of any repair—structural repair and cosmetic repaired—should be looked at as two separate phases. I suggest always doing the structural part separately. This usually takes a minimum of time and effort. Once everything is structurally sound, go fly the model before spending all the hours it usually takes to do the cosmetic part. Why do all the paint work if the model is now assembled crooked or has gained too much weight?

We had a "team effort" to put **Rich Giacobone's** first *Stuka* back into one piece, and even though it gained a few ounces, he still flies it regularly. He noticed the stab was a little stilted, but it still flies fine, and it's always nice to have a ship you can take out and fly in inclement weather or at sites with unmowed grass.

My point is that most repairs

are worth it and surprise us once completed. Sometimes after a repair we learn more from the ship because we're less afraid of the ground. This was certainly true in Rich's case with the repaired *Stuka*, now affectionately nicknamed "Wounded Warbird."

I'd like to welcome new PAMPA President **Bill Rich** and share a great memory that I'm sure Bill will never forget. The scene was the 1987 NATs at Lincoln, Nebraska, wind howling seven days in a row, but we all somehow got to squeeze in meaningless practice flights. It was Bill's turn on the first practice day—he landed and had no tailwheel wire! "Repair King" Urtnowski to the rescue, of course, and we went back out to battle the wind gods. After a few more flights, though, no tailwheel wire...again!! This time Bill repaired the wire, and we were all wondering what was going on. Out to the field, and in two flights the same thing happened *again!!!* We never did figure out what the issue was, but it's great years later recalling repairs like that, and it's funny how 20 years later we can recall in complete detail.

Bill learned a lot in District II when he lived in Philadelphia, and we all palled around with the late **Big Jim Greenaway**. Those memories of times long gone but never forgotten are one reason we all stay with the sport, in my opinion. So next month I expect Bill to share his "Secret Tailwheel Wire Tips," and I'll tell you how Bill got the nickname "Stewball." (On second thought, maybe I'll let him tell you in his own words.)

Over the years events like that had me research out wire properties and why wire sometimes fails when bent incorrectly or bent too far and then bent back. If you don't want music wire—even top quality music wire—to fail, *do not* bend it too sharply or correct a bend by bending back!

-Windy Urtnowski 



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Safety

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Let's talk safety.

Warning: Graphic pictures to follow. This column and what follows is not for the squeamish.

When I started writing this column, I began by saying, "Don't stick your finger in the prop." It seems rather obvious and maybe even funny to some people that we need to mention this. Nobody intends to stick their finger in the prop of a running engine. But we do. And it happens often enough that we need to repeat this admonition over and over again. In the real world there is a saying about pilots who fly planes with retractable landing gear. It is said that they can be divided into two classes: There is the one group who have landed their planes with the wheels up, and then there is the other group who will sooner or later. In the model airplane field there are those who have stuck their fingers in the prop, and those who someday will. I already have my scars. Do you?

I had some pictures sent to me by one of the users of my Stuka Stunt forum (<http://clstunt.com/htdocs/dc/dcboard.php>). He posted them there first, but then sent me some pictures to include in the Stunt News safety column. It is kind of a vivid reminder of what happens when we let our guard down. The first two pictures show the hand bandaged up. The last picture is one taken a bit later while changing the bandages which shows the actual wound and stitches after a considerable amount of healing has already taken place.

He said it took four stitches to close up and he spent five and half hours in the hospital emergency room. He had to miss two weeks of work and at least

that much flying (Which is worse? I don't know.) And it happened with a "worn out Greenhead engine and

would say, "Number one son") tries to fly nearly every night during the summer. He takes his plane with him to work after lunch, and then goes immediately from work to the field in the evening. And by necessity, he has to fly alone. Now the field where he flies is just across the parking lot from an upscale restaurant that is open every night except Monday. So every night (except Monday) he would have a place to go to get help if needed. But what do you do if there is nobody around? That is the first question that you need to ask yourself. What do you do? And for that I don't have the answer. Do you?

But let's talk safety here for a minute. Instead of talking about what to do in case of an emergency, let's try to prevent one from happening. If you are going to fly alone (and a lot of us have to) then our first consideration is a stooge. We need some means of holding the plane while we start the engine and get out



a Graupner prop." You can imagine what might have resulted had it been a more powerful engine turning a larger carbon fiber prop.

The moral of the story is... (Well, a picture is worth a thousand words. You get the idea.)

What I really wanted to write about today was flying alone. First off, (I have to say this), it is best not to fly alone. That way there is always someone to help in an emergency. But let's face it, for many people, if they didn't have a means of flying alone, they would have little opportunity to fly at all. I know that Matthew (as Charlie Chan



to the center of the circle. And then we need some means of remotely releasing it once we get our hand into the handle and are ready to launch.

Most stooges are of the pin release type. They have a spring loaded plunger that holds the loop that is attached somehow to the tail of the airplane. The plunger has a cord attached to it and we pull the cord to release the plane. So now, with this type of set-up, what problems could occur? Remember, if it can happen, at some time it will happen, unless we make every effort to see that it doesn't happen. (Murphy's law)

First consideration: How do you anchor the stooge? The whole system is only as good as the stooge itself. If the stooge moves, the plane moves. For Matthew and myself, we always fly off of grass. And with our system we use three or four long ringed spikes that are driven deeply into the ground with a hammer to hold the stooge in place. And with this system and the type of soil where we fly, you need to use the claw of the hammer to pull these spikes back out. Once these spikes are driven into the ground, the stooge is not going anywhere. If you have a question about yours, get longer spikes. Don't let these be the weak link in the system.

For those who fly on a hard surface, the easiest way of anchoring the system is with a heavy weight. Some systems are fastened to a plate of iron that is heavy! Adding a rubber membrane to the base can make it even less prone to move. But once again, make sure that once this is down the pull of the airplane cannot budge it. We don't want it marginal. We want it positive.

Now, how do we attach the hook on the plane that the spring loaded plunger goes into? Some solder a wire with a loop to the tail wheel strut. If you do this, you had better make sure that the tail wheel strut will not break off. Have you ever had a tail wheel strut fail? Had it happen. Seen it happen. A better solution might be to attach the release wire directly to the plane. You could even use a short piece of cable and anchor it solidly to the plane.

What Matt uses is neither. We made up a simple stooge that grabs the stabilizer of the plane, and then drops down to release it. That way there is no hook needed and we have eliminated one more of the weak links in the system. It is also a system that can be used with any plane whether or not it has a hook attached. I will try to have pictures of the system along with a description of how to make it next time.

Oh, but we are not done. When you are flying with a stooge, set it out of the circle far enough so that you have

to back up once the plane is released in order to get to the center of the circle. That way you won't have to worry about hitting the stooge when you land (You did think about that, didn't you? Woops!)

And then there is the string. Ah, yes, the string. It is best if you can have a yellow or red pull cord that is both strong and stands out from the background. Put a handle on the end of it, and when you launch, throw the handle towards the stooge and away from you. Several people have already reported stories of how they got tangled up in the string of their stooge while they were flying. And when you think about it, this would be very easy to do since we go around in circles. Don't let the release cord of the stooge become a safety issue. Use it to release the plane and then get it out of your way. Just dropping it while you back up is not a good answer.

What if you need to move just a little bit because of gusty conditions and suddenly find yourself tangled up in that cord? Not a good scenario to think about, is it?

Oh, one more thing, if you fly with a stooge, start the engine, get out to the handle and pull the stooge release cord and the plane doesn't move, don't you move, either. Even if you stand there for seven minutes holding the handle while the plane sits on the launch pad with the engine running, it is much better than

starting back towards the airplane only to see it release on its own. (It has happened). We don't want your picture to be the next one in this column.

OK, that's it for this month. If you do have a safety related incident that you have experienced or seen, please send it to me so I can pass it on.

Next time I will try to include those pictures of an easy to make stooge that can be used to launch any airplane. I will also show you my stooge release cord handle design that also serves as a reel and is "adjustable" for any line length.

'Till next time, fly safely, launch safely, and keep your fingers out of the prop.

-Leonard Neumann



The Lighter Side

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Recall what you had for breakfast this morning? Better yet, remember being asked to dump the trash half-an-hour ago? Probably not, but if you're like most of us you can instantly recall the color scheme on that PDQ Circus King you built in 'Fifty-Four. Some guys can't remember their phone number but know the address of what used to be their favorite hobby shop back in 'Forty-Nine. And we all know someone who can't remember to tie his shoes but can rattle-off the name and wingspan of every kit produced by Berkeley, Sterling and Veco.

This isn't meant to poke fun at others, because I'm not immune to it. May not remember where I put my glasses or car keys but can tell you which prop (Kaysun red plastic 5.5x4) was on my first engine (Cub .049) in 1950, or how many entrants were in Class A Gas at the '74 US Free Flight Champs. (Ninety-four, by the way, which seems nearly unbelievable today. I placed 4th. Taibi 'Orbiteer', TD .051, Cox 5-3 gray, pacifier tank, 25 percent nitro, total time 26:31.)

See what I mean? While it's commonly accepted that short-term memory decreases with age, there is no known explanation for our ability to vividly 'see' events from many

years ago, often with exquisite detail. The older we get, the more pronounced this becomes. We may forget to do the laundry, meaning we'll be wearing the same funky clothes tomorrow, but if someone asks who won the '66 Walker Cup...bingo! Bob Gieseke. And we can even spell his name correctly. Unfortunately this ability often has a negative effect on domestic harmony. For example, you're in your workshop. Your flying buddy asks...

'Hey, Clyde, remember the '56 Bubbatown Annual?'

'Yep. Flew a Veco Smoothie. Tissue an' sixteen coats a' clear Aero Gloss, Fox 29, Champion plug, Powermist, 10-5 Y&O, Hot Rock handle on oh-fifteens, 58 feet eyelet-to-eyelet. Sunny day, 74 degrees, light breeze from south-southwest. Scored 390.5, came in third. Went for pizza when it was over, and got home at 5:17.'

(Wife enters workshop)...

'Honey, did you get the bread and milk like I asked?'

'Oops. Sorry...I forgot.'

Moments like that can take the fun out of it.

-Mile Keville



THE TRAILING EDGE

Mark Keville

What's all this fascination with antique designs, some of which barely stagger through the pattern? The answer to that is probably plain old Nostalgia. Some of us spent much of the '50s pouring through issues of Air Trails, FM and MAN, drooling over photos and construction articles for designs that were then beyond our capabilities and/or wallets. Later we endured 'modelus interruptus' while launching careers, raising families and so forth, then one day discovered that those designs hadn't been relegated to the dustbin of history—that we could still get plans and, in some cases, kits for them. Of course by then the price of balsa had gone thru the roof along with everything else, but nonetheless we jumped on it. For me, it was the 'Zilch' series, most notably the 'Super Duper' since that was my first exposure to anything larger than a Monogram 'Speedee-Bilt'. Finally built and flew one, thanks to Walter Umland's excellent kit. Others re-discovered Still's Stuka, deBolt's All American, Palmer's Smoothie, GMA's Nobler and more.

Some build and fly for fun, others for competition. Regardless of the motivation, it's nostalgia that drives us ... the urge to finally have something we merely dreamed about many years ago.

Clarification regarding NATs OTS and Classic: My previous column stated that the AMA does not take entries for unofficial events. While that's true, they apparently do require payment of a ten-dollar fee from those not registered for any of the Official events. That fee, collected for whatever reason, created some confusion last year, so if it's on this year's entry form, be advised that it will not (repeat: not) get you entered in OTS or Classic. You must appear at the designated time and place to register. Yes, there will be an additional ten-dollar fee, but this one goes to PAMPA. Since OTS and Classic will be flown Monday, July 14, sign-ups for those events will be at the L-Pad pavilion Sunday, July 13, at 11:00 AM sharp. Be there on time because registration will close promptly at 1:00 PM, allowing everyone time to arrive at CLPA appearance judging that afternoon. Contact me if you have

questions.

Ringmaster Roundup: The second annual gathering of Ringmasters, all sizes and versions, will be held in Houston the weekend of April 12-13. This one caught on like wildfire last year, so if Ringmasters are your ‘thing’ there’s no better place to be. See the web site (www.brotherhoodofthering.info) or contact Dee Rice at golfrice1@yahoo.com for full information.

The Way We Were. In 1970, PAMPA member Gary Widmer was a young C-141 pilot, in fact at age 24 the youngest aircraft commander in the Military Airlift Command. He sent a photo, seen below, plus details of that particular flight during which he and his crew were enroute from Hickam AFB, Hawaii to Pago Pago. The USAF was then building a tracking station on Canton Island—the main island/atoll in the South Pacific’s Phoenix group—and Gary had regularly scheduled missions to supply that effort. He wrote, “I don’t remember what we brought from Hawaii, but I do remember taking several of the Samoan laborers to Pago Pago for R&R. They wanted to take a bunch of fish back home but I wouldn’t let them. The next day we re-traced our route, unloading a pallet of beer and a pallet of clean sheets and assorted laundry items. I was able to take my two roommates on the mission. They were ground-pounders stationed at Los Angeles AFB. You could get away with stuff like that in those days.” (Actually, you could get away with a lot more than that in those days, but we probably ought to keep the details to ourselves – mk.) That ‘141 seen in the background here might get the attention of another Stunt flyer who, as an Air Force Reservist, flew those on supply missions to the Middle East during Desert Storm: David Fitzgerald.



In 1970, then-24-year-old 1/Lt. (later Capt.) Gary Widmer was the USAF’s youngest aircraft commander, flying C-141s on the Pacific route, including Vietnam. Seen here at Canton Island, enroute from Honolulu to Pago Pago.

Continuing with the photos contributed by Jack Sheeks, here are more memories from days gone by. YOUR old photos are welcome here, and will be safely returned after they’ve been scanned and saved for future publication.



Jim Silhavy and Gypsy, seen at an unidentified NATs, probably late '60s or early '70s.



Bob Gieseke and namesake Nobler. Behind him we see Ted Fancher (dark shirt) and Bill Fitzgerald.

Now for a bit of nagging, based on recent personal experience.



Bill Simons and Scorpio. Plans for this 60-inch span design are available from Carstens (Flying Models).

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Practice and Competition

About five years back **Bill Hummel** and I wrote a series of articles for intermediate fliers. We called it "Moving Up". It was a start-to finish building project (Brodak Cardinal) and included a section on practice and competition that gathered input from many experienced fliers. Although it was targeted primarily at intermediate fliers, it contains information that is universal to flying stunt. I've decided to bring it back because I believe many fliers could profit from it.

Practice.

1) You need a good plane, built straight, and not overweight. It should be capable of easily flying the pattern and be rugged enough to stand up to many practice flights. Get help from an experienced flier to help you trim the plane. He'll save you a lot of headaches. You need to focus on practice.

2) Get an engine run. Until you have a good dependable engine run, you won't make much progress. If you fly electric the same applies -- you need a reliable power package.

3) Learning the pattern. As you're learning the pattern, fly as much of the pattern as you can. When you get to the first maneuver you still need to learn, work on that for the rest of the flight. After you've learned the pattern, Always fly the full pattern. If you want to work on a particular maneuver, devote a whole flight to it.

4) When you go to the practice field, be ready to fly. Don't be cutting lines, changing engines, or making repairs. Practice time is limited - don't waste it.

5) Learn to start your engine quickly. Most engines will start with one flip if you learn the necessary drill. One-flip starts aren't just for bragging. They're the difference between walking out to start your pattern focused and composed, instead of rattled and panicked after running out of time. Also, a quick start gives judges the impression that you know what you're doing.

6) Practice as much as you can. Practice like its top-twenty day at the NATs. You won't improve unless you push yourself. There is no substitute for practice, but it doesn't count if you loaf through the pattern. (Actually, it's like negative practice). You must push yourself.

7) Learn to fly in the wind. Most contests are windy, and you need to learn to handle the wind.

Competition.

1) Check your equipment the night or day before a contest. Check that everything on your plane is tight (including the prop), check the fuel filter, oil the wheels and hinges. Clean, wax and polish your plane. Make sure that everything is in your flight box - lines, handle, fuel, syringes, glow drivers (charged), chicken stick, props, prop wrench, stopwatch, tach, etc. Make a list of what you need so you

Keville Trailing Edge, cont'd...



Original Indianapolis Stunt Team, L-R: Bob Schubert, Jim Vornholt, Bob Fisher, Jack Sheeks, Bob Servies, Bernie Ash, Mo Todd.

USE...YOUR...SUNSCREEN. I'd always felt I was a tough little runt, having lived in some of the world's most intensely sun-drenched places—Saudi Arabia, Kuwait and, well, yeah, Arizona—with no hint of damage from UV rays. Wrong! Last winter I lost a good portion of my nose to skin cancer. Not just the 'freeze it off' kind, this one involved much cutting and digging. Reconstruction was lengthy and, let's say, 'less than pleasant'. (For the gory details contact me privately, but you'd better have a strong stomach.) Yes, I'd been using SPF-45 and 50 for years, apparently just not often enough. Trust me, unless you enjoy major discomfort, use that sunscreen often. Add a wide-brim hat too. I cannot adequately express how unpleasant that process was. By the time this appears in print, the plastic surgeon's work should be nearly healed enough so my appearance no longer frightens dogs and small children, though he's now talking about follow-up radiation treatments. You do NOT want to experience this. Take whatever steps necessary to protect your skin from the sun—especially you judges who stand out there all day long.



Why I Fly Stunt

Bob Smiley

When asked by Tom McClain to volunteer writing a two page article about why I fly stunt; I pondered and explored my inner thoughts about the question.

old, I purchased a 50 cent stick and paper comet model of the Fokker D7. Using Testors glue, a Gillette safety razor blade, wax paper, a plywood board and straight pins, I proceeded, without assistance, to cut and poke my fingers, build, cover, and finish

the plane. It was painted with red and black enamel paint purchased from the local hardware store. It was given to my grandmother as a gift which she kept on her fireplace mantel for years. Grandparents are great. She returned it to me years later. This was the first experience at model building

No mentors coached me in the sport. In 1957 Ted Fancher and I flew in the 1957 NW Regionals at Sand Point Naval Air Station in Seattle, WA. I competed in Jr. Stunt with a Fox 35 Veco Thunderbird. It pancaked into the ground on the horizontal square eight and I missed 1st place by 21 points. That 2nd place trophy is still in a prominent place at home.

Modeling was set aside for the big regional NW sport of outboard hydro racing under the American Power Boat Association rules. Boar racing was very

popular because of the unlimited Gold Cup and the Slo Mos 4 and 5 duking it out on Lake Washington. Many kids had boats and dreamed they were Lou Fagel, Joe Taggart or Bill Muncy. There was a race every weekend during the summer and some races were even televised on Channel 13. It was much fun.

As a young family with young children, I got involved again in 1975-77. My oldest son and I attended the NATs in Riverside, CA, at March AFB. We parked a small camper trailer on the base where we repaired our combat planes and flew combat, mouse racing, Goodyear, and PA Stunt with two profiles. That experience provided a great bonding experience with my son and we continue to have a strong relationship.

In 1993 a private pilot license was obtained. We purchased a partially completed Lancair 360 experimental

Drindak Technology, cont'd...

don't forget something.

2) Get to contests early enough to get a practice flight. Getting a flight in helps with the butterflies. It also gives you a chance to check your needle setting. Be aware that needle settings change with air temperature. Your engine will get richer as temperature goes up. We once attended a contest where the temperature was in the forties for the practice flight, and in the eighties for the second official. We went in a couple of clicks on the needle and had a good run.

3) Be ready to fly when it's your turn. Don't make the judges come get you. You should be standing by with your helper when the preceding flier's engine quits. Be alert for fliers on the board who are no-shows, or ones who pass a round. You could be up sooner than you think.

4) Don't hesitate to take an attempt. You have three attempts to make two official flights. You can declare any

flight an attempt up to the point of the inverted pullout in the wingover. If you spend two minutes starting your engine, and you have a six and a half minute run take an attempt. (Actually, you should take an attempt if it takes over a minute to start your engine). If you totally miss the needle setting and get a blubbery-rich run, take an attempt. If you're picking up your handle and get stung by a bee, take an attempt.

5) As you set up for your flight, you should check the wind and decide where you want to fly your maneuvers. If the judges aren't properly positioned, ask them to move. Only in extreme cases should you change maneuver position during a flight. If you do, motion the judges to where you want them, and give them a couple of laps to move.

6) Don't let the sun surprise you. While waiting to fly, face in the direction you will face when you fly maneuvers. Evaluate how the sun will affect you as you fly the pattern.

7) If you screw up a maneuver, forget it. You can't fly it over. Focus on the next maneuver.

8) Always thank the judges after your final flight. Remember that they're volunteers. Let them know that they're appreciated.

9) Your goal at a contest should be to do your best. If you flew your best, you should feel good about it. If someone beat you, congratulate him and work to do better at the next contest.

10) Don't forget to have fun.

11) A question you will be asking yourself as you improve is "when should I move up to Advanced". One rule of thumb is to move up after winning three intermediate events. Another is when you have nothing to learn from the fliers on your circle, move up.

Good luck at your next contest.

-Noel Drindak



airplane kit and began a six year building project. We flew that bird for six years around the western and mid section of the United States. After a few years, the novelty wore off after two Oshkosh visits, and many long-range solo flights.

A harrowing incident occurred where I had a gear up dead stick landing on the last 100 feet of the Bremerton, WA airport. Walking away, I realized that there are things beyond your control that can happen after you do everything to prevent such an event. I repaired the bird, hopped up the engine, got back in the seat and flew it for another 10 hours then put the bird away for good. Much was learned, but as the great blues guitarist BB King sings, "The Thrill is Gone." Also, as we age, we begin to forget things. That little weakness can lead to a serious unforgiving accident. Recognizing that my children would still miss an aging codger like me it was time to move on. Flying was great but building the machine provided greater satisfaction.

Now in the stunt realm, I can experience all the benefits of the above activities and more:

1. Building planes

2. Participate in monthly competitions around the west coast, Canada and Arizona

3. Socialize with many interesting and knowledgeable modelers who happen to be great people

4. Learn a great deal about building, flying and other things

5. Receive satisfaction at trying to perfect the multi disciplinary skills necessary to be a consummate modeler and competitor

The challenge that drives me is to excel in all activities of life. Model building and flying stunt is a fabulous simile that expresses that value. You can strive for perfection in building a beautiful I-beamer and photograph the skeletal airframe and it looks like a work of art. Thanks Billy Werwage. You can ask any modeler, regardless of their skill level, about a technical problem in construction, flying, trimming a plane or motor run problem and one of the fellas on the field will offer a solution. Thank you Bill Hayworth, Keith Trostle, Randy Powell, Warren Tiahrt, Bob

Whitely, Howard Rush, Paul Walker, Bart Klapinski, Ted Fancher, and Brett Buck. In competitions if you lose a plane or don't have a plane someone will sometimes offer one for you to compete. Thank you Pat Johnston and Mike Haverly. These are just a few of the fellas that have assisted me through the years. These same experiences can be had everywhere else in this sport. Only the names will be different.

Life is a journey and we need to plan and prepare ourselves to accept and take advantage of opportunities when they arise. When that occurs, excellence and success is achieved. You only have to have an inquisitive mind, a positive attitude, ask questions from those persons who know and apply the answers to solve your problems. In this way we can all strive to become what we desire to achieve in life and modeling. To excel in stunt requires the same attitude.

To be successful in stunt requires you to build a properly weighted (usually light), stiff, straight, strong and well designed airframe coupled with the proper power to provide a constant speed model that will fly smoothly through the maneuvers. You need to understand trimming techniques and how they can be applied to varying conditions such as wind, density altitude, temperature, and local conditions. You need to understand the judges, your model flight characteristics. Lastly, you need to be properly prepared to understand the mental concentration needed and practice to accomplish the precisely timed control inputs to effectively render a smooth rhythmic precise pattern that will wow the judges. Seems like an impossible task. But that is the beauty of the sport. You can compete against and compare yourself against the other competitors.

A better objective than to win is to compete against yourself and try your best to excel and continuously improve. In this manner you will be rewarded regardless of your position in the competition ladder or model building scale. Learn and have fun.

There are some allusive goals I would like to achieve. One is to build a 20 point model. It is quite difficult but the pleasure comes in the striving

and the learning. Some of us are flyers, some of us are tinkerers and some of us are builders. I also want to be a strong flyer. These goals exact a price that sometimes is too much to pay to achieve the goal. Thus we must realistically apply the decision making process to determine where we will be satisfied. That is the beauty of the sport.

Henry Van Dyke once said,

"Life is an arrow-therefore you must know What mark to aim at, how to use the bow- Then draw it to the head and let it go."

Stunt flying is no different.

I saw a model boat race this weekend at Tucson. I watched the races and talked with the modelers. The thrill of racing is still addictive and exciting to me. The high speeds and overtaking your competitor is exciting and addictive with the adrenaline rush. Flying stunt, however, is more cerebral and introspective. It requires intense concentration, a precision kind of thing that uses a greater portion of your brain and demands a greater commitment from the modeler as you try to paint the perfect picture. It is analytical for me. I continue to enjoy and welcome constructive support and I am now able to support and assist other modelers on their way to achieving success.

"Each petty hand can steer a ship becalmed; but he that will

Govern her and carry her to her ends, must know

His tides, his currents; how to shift his sails;

What she will bear in foul, what in fair weathers;

What her springs are, her leaks, and how to stop them;

What strands, what shelves, what rocks to threaten her;

The forces and the natures of all winds,

Gusts, storms, and tempests; when her keel plows hell,

And deck knocks heaven; then to manage her

Becomes the name and office of a pilot."

This is my reward obtained from participation and why I fly stunt.

-Bob Smiley 

A former Lancair 360 pilot trying to be a modeler





Gran Canaria

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*Report by Alberto Parra, President;
translation from Spanish by Will Hubin.*

For the seventh consecutive year, Club Tamaran successfully offered their "International V&V Gran Canaria" contest, with the participation of local, national, and international flyers.

Already by December 7, flyers from Holland, the United Kingdom, and Madrid, as well as visitors from Finland, were taking advantage of vacationing in the island and enjoying control-line flying. All gathered at Gran Canaria's airport and were taken to hotel rooms reserved by the club.

The end of the week looked to be bad because the Canary's government had issued an alert for strong winds and rain for the islands. Fortunately, and owing to the location of Gran Canaria, all found themselves in rain on Thursday morning but by Friday we were able to fly the first practice sessions and official flights.

As noted, on Thursday, during the assembly of tents and fences, strong downpours fell on us a couple of times, which made us fearful, but the forecasts predicted improvement.

Friday dawned with sunshine and we proceeded to put up the flags that decorate all the perimeter of the fences around the flying circle. Stunt practice then began in the morning and the first contest round started at 4 p.m. From the first, Henk de Jong stood out, flying his Super Tigre .34-powered

Shark – an engine well adapted for stunt. Also Pepe Lopez, Jose Luis Lopez and Brian Scott arrived to contest the first round even without practice flights. At 5:30 p.m. the last aerobatic flights ended, including competitors flying the basic (beginner) pattern; then practice continued past 6:30 p.m.

In the evening we all went to a typical Canary Island restaurant, dining on freshly caught fish from the island, and by the beach where we tasted more fish, scalped potatoes, cheese of the island...and some bottles of wine...

Saturday dawned with a splendid sun, beginning the second and third rounds at 9:00 in the morning. Thanks to the work of the judges and the flyers, we were able to finish the third round before 1:00 p.m. (nearly an hour earlier than anticipated). Henk de Jong and Javier Aguiar definitely distanced themselves from the rest of the field, exhibiting fine quality in their execution of the aerobatic figures.

As noted previously, Henk campaigned a SuperTigre .34-powered *Shark* that was very impressive. On the other hand, Javier flew his *Shark* that was powered by a Retro Discovery .61. Sergio Hernandez had bad luck and broke his Enya .50-powered *Tutor*, which was flying very well, but it will be relatively easy to repair. Alberto Parra flew his usual Retro Discovery .61-powered *Yakovlev 55*. Brian Scott

V&V Gran Canaria Las Palmas, Gran Canaria, Canary Islands, Spain December 13-16, 2007



Henk de Jong with his Shark

flew a Brodak .40-powered ARF *Cardinal*, flown for the first time before the beginning of the Friday rounds. Still, everyone remained in contention.

Pepe Lopez and Jose Luis, of Madrid and usual participants in V&V contests, prepared and flew their Enya .40-powered ARF *Cardinal*, with good scores in both rounds.

On the other hand, Nacho Villar and Nacho, Jr., flew to the island on day 12 and were able to enjoy themselves and relax for a day before the competition began. Both flew an Enya .30-powered *Sukhoi 26* that had problems maintaining line tension in the wind. Nestor Feijoo flew his usual OS .25 LA-powered *Sukhoi 26*, doing very well in the competition. Next year he will begin flying a .40-powered *Nobler* and we expect to see even better flying.

In the Basic contest, there were three contestants. Jorge Feijoo flew from both the Basic and the Intermediate patterns, making three splendid flights



that included optional maneuvers such as three loops and inverted flight..next year will see the full FAI pattern. Special mention goes to Elisheba Haro, who with a *Hummingbird* of the club (shortly after her Sukhoi 15) executed the basic pattern with only two days of practice in the previous week. Samuel Román, the "kid" of the club at only 10 years of age, flew very well and is preparing to compete with whomever he meets.

At noon the organizers had prepared succulent sandwiches of Spanish tortillas and mountain ham, which was well received by the flyers and the supporters. At 3:00 p.m. a group photo was taken and at 3:30 p.m. speed-limited combat began. This was followed by the Spanish version of Foxberg racing.

As usual, we are grateful to Begonya Axpe for her dedication in organizing the contest in the previous weeks and during the event. Pepe Alvarez, the contest director, made sure that the



Javer Aguiar, Discovery Retro-powered Shark



Alberto Parra flying his Yakovlev 55



Brian Scott with his Cardinal



Nacho and Nacho, Jr., in action



Nestor and Jorge Feijoo



Top stunt flyer Henk de Jong





Jose Luis Lopez with his Enya .40-powered Cardinal

contest took place perfectly and to the satisfaction of all. Thanks also to Sergio Hernández, who worked the two days before, preparing the flying field, along with Alberto Parra. We also can't forget Irene, Natalia, Angel, Paula, Olga, Goyo, and all those that helped over the past year in making the contest a success. We also can't forget Carlos Aguiar, who took his usual 2000 or so photos during the weekend.

See you in December of 2008!

- Alberto Parra



Saturday night gettogether



Contest participants

International

United Kingdom

Bryan Dyke, bfmjdyke@supanet.com

011 44 1309672602

Letter from Bryan Dyke



Tom,

Thanks for your letter received after Christmas. I am very impressed with your Martin Marauder and thanks for the photos. There are not many twin stunters around. Especially as she flew well. (Brave Man)

Getting down to what you would like, ie. the dimensions of my Stuka & Wyvern, I am sorry to say I no longer have the plans I drew up some 35 years ago and having moved house has not helped. I can only remember the root chords. ie. the Stuka was 18" by 72" span and the Wyvern was 15" root chord by about 60" span. Both had Merco 61s.

The Stuka propeller was 12"x6" and the Wyvern I made a 11"x6" thin blade chord. From x 2 wooden propellers worked well. Again I am so sorry I can not help any further than that. Thanks again for the photos.

Yours sincerely,

- Brian Dyke



GUESS THE LICENSE PLATE OWNER

**THE
ANSWERS**

Which PAMPA members have the displayed license plates and where were these pictures taken?

The answers are in the captions below each picture.

- Editor 



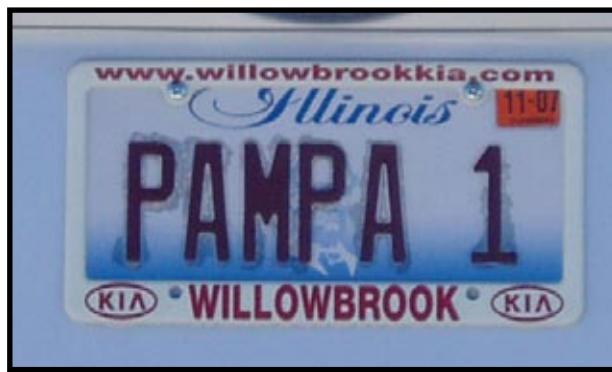
CL Guy; Crist Rigotti



STUKA 1; Rich Giacobone



VSC Guy; Mike Keville



PAMPA 1; Len Neumann

All of the pictures were taken at the 2007 NATs in Muncie, IN.





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PAMPA, an AMA approved Special Interest Group, founded July 1973. Objectives include a means of communications among control line stunt flyers, voting on issues affecting control line stunt, and administration of the Control Line Precision Aerobatics Event at the NATs and conduct of the FAI Team Selection Trials.

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FA-56CL

| |
|-----------------------------|
| Displacement: .56 cu in |
| Weight: 15.5 oz w/o muffler |
| Cylinder/Head: 1-piece AAC |
| Piston: Ringed |
| Prop Range: 11 x 6-13 x 6 |

FA-62aCL

| |
|-----------------------------|
| Displacement: .62 cu in |
| Weight: 14.7 oz w/o muffler |
| Cylinder/Head: 1-piece AAC |
| Piston: Ringed |
| Prop Range: 11 x 6-13 x 6 |

FA-72CL

| |
|-----------------------------|
| Displacement: .72 cu in |
| Weight: 16.6 oz w/o muffler |
| Cylinder/Head: 1-piece AAC |
| Piston: Ringed |
| Prop Range: 12 x 6-14 x 6 |



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the venturi size
to your liking.

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STUNT NEWS



Junior flyer Ryan Young's "Legacy" at the 2007 NATs.
Photo by Bob Lampione.



Bob "Champion" Lampione's NATs winning F-86D. Photo by Bob himself



Paul Walker's "Impact XLE" at the 2007 NATs. Photo by Bob Lampione.



Oki Minato's 2007 NATs winning "Eternal." Photo by Bob Lampione.



Kaz Minato's 2007 NATs entry, the "Blue Max."
Photo by Bob Lampione.

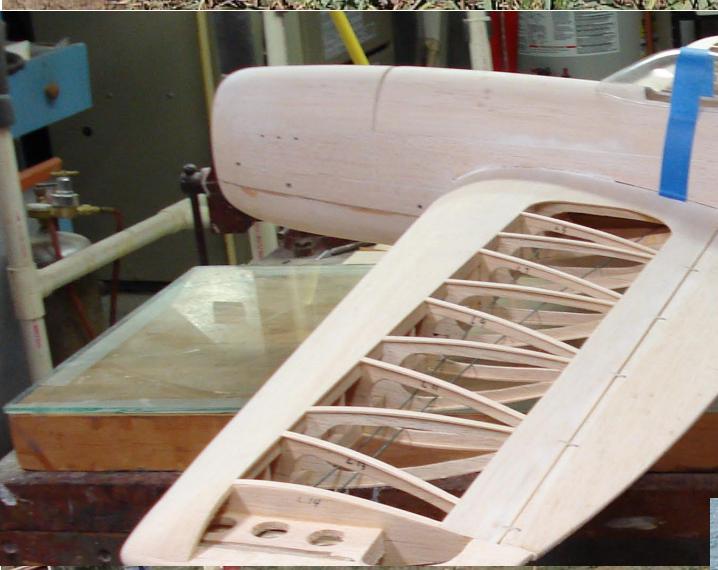


Mark Hughes' MC-72 Stunt Ship at the 2007 NATs. Photo by Bob Lampione.

A beautiful rendition of an ignition stunt machine. Photo by David Fitzgerald.



Pat Johnson readies his Shark 35. Photo by Bruce Hunt.



Bob McDonald's latest P-47E. Photo by Bob McDonald.



Pat Johnson's profile Reno F-4U Corsair. Photo by Bruce Hunt.



Keith Trostle's 25 powered P-40Q. Photo by Keith Trostle.

Bob Randall and his NATs Open winning Gobbleschwantz.
Photo by Don Ogren



Milton Boos 2nd, Bob Randall 1st, and Rolland McDonald 3rd in Open at the 1958 NATs. Photo by Don Ogren.



Jim Smith 3rd, Bob Dixon 2nd, and Derek Barry 1st at the 2008 KOI.
Photo by Dale Barry.



Charley Mackey talking with Charles Lickliter and others at the 1958 NATs.
Photo by Don Ogren.



"Original Indianapolis Stunt Team, L-R: Bob Schubert, Jim Vornholt, Bob Fisher, Jack Sheeks, Bob Servies, Bernie Ash, Mo Todd." Photo by Jack Sheeks



Gordy Delaney's profile Pathfinder twin at the 2008 South West Regionals in Tucson. Photo by Tom McClain.



Keith Trostle's soon to be finished FW-190D rendition of his 1970 NATs and Walker Cup winning Dora. Photo by Tom McClain.



Bob "Sparky" Storick and his Werwage P-47 at the 2007 NATs. Photo by Bob Lampione.



Phil Granderson and his awesome "Diva" at the 2007 NATs. Photo by Bob Lampione.



Bill Rich in the groove at the 2007 NATs. Photo by Bob Lampione.



Ted Fancher at the 2007 NATs with his "Antique Trivial Pursuit." Photo by Bob Lampione.

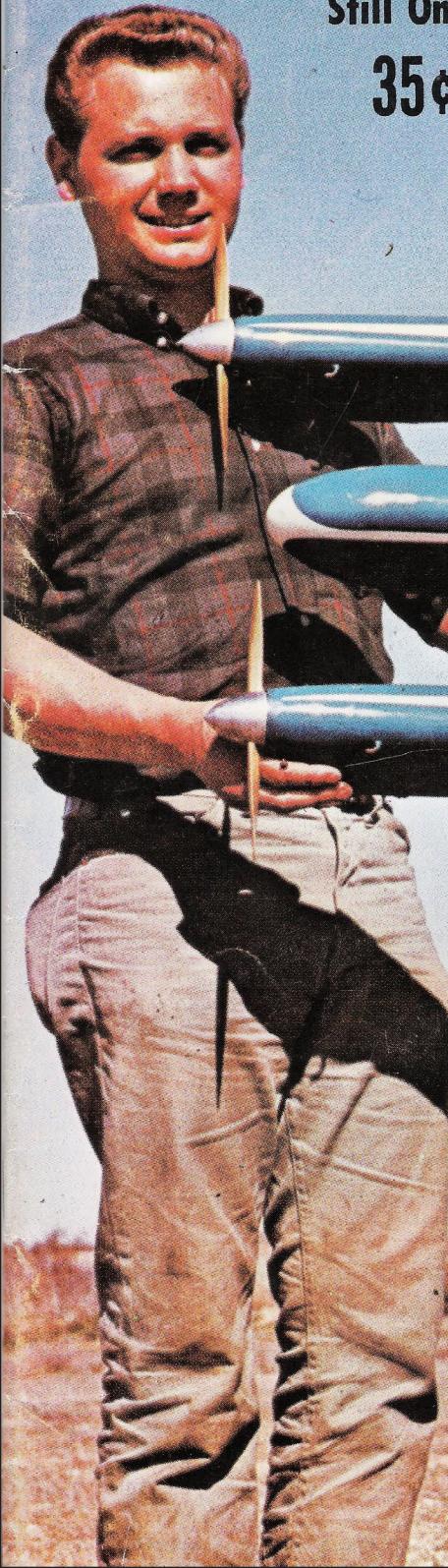


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