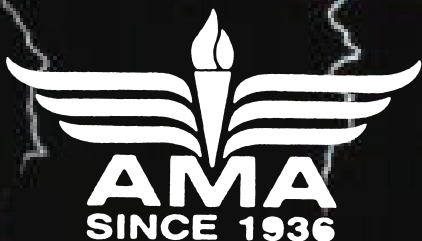
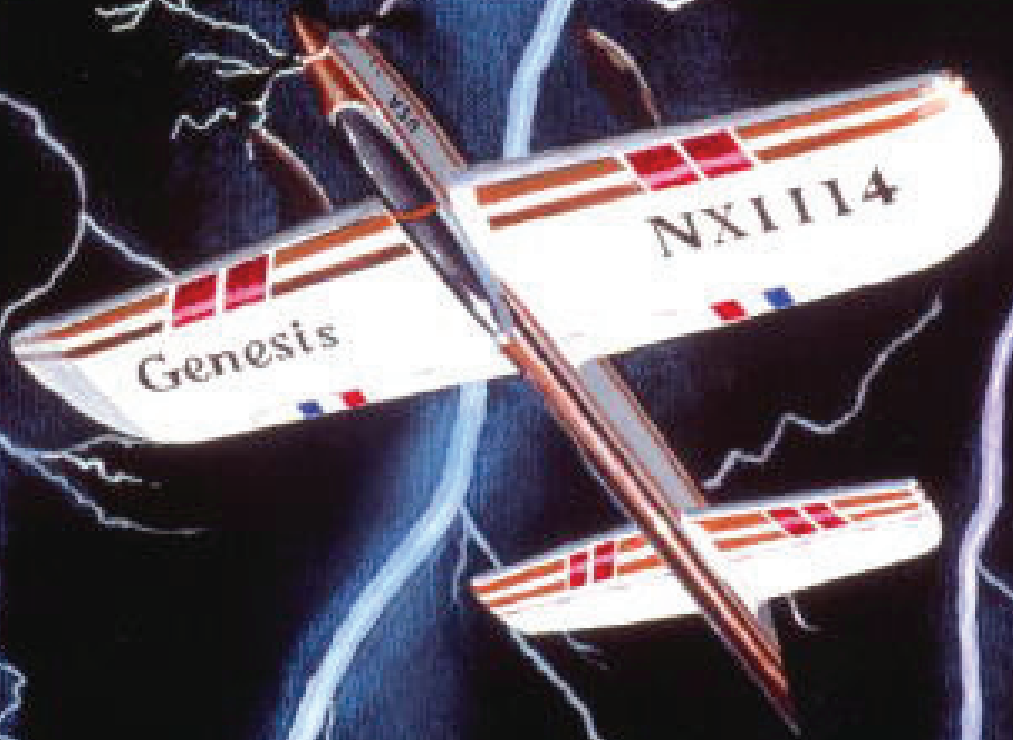
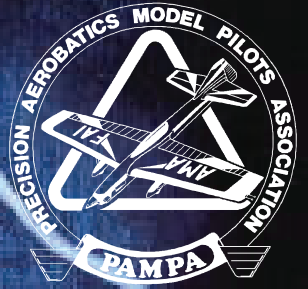
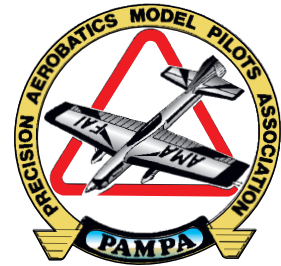
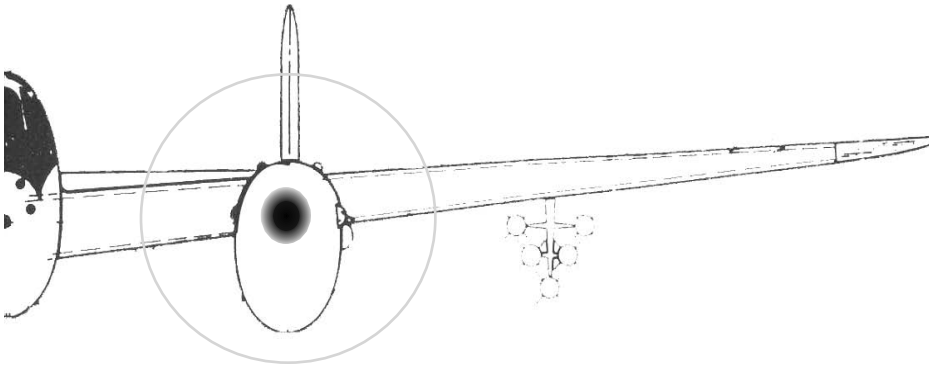


Stunt News



March-April 2006 2006





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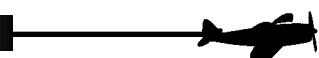
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President's Report by

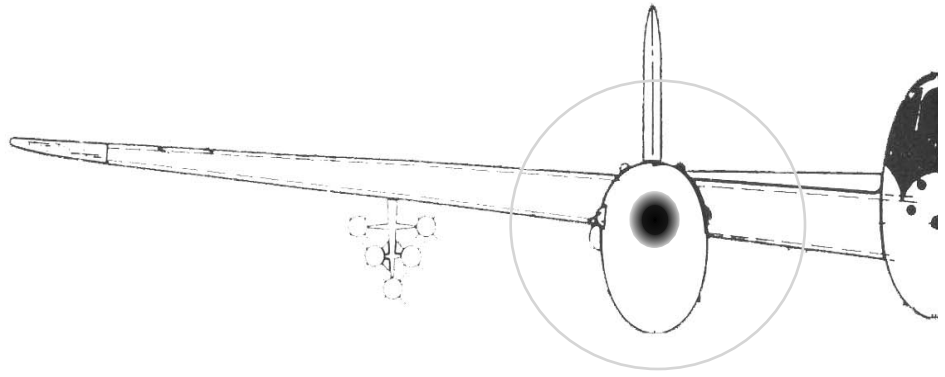


Paul Walker

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As you know, this is the first issue of Stunt News under the new editor, Tom McClain. He was confirmed as the new editor in January by the new EC. Before we go forward with Tom, I would like to look back into the past. Tom Morris took us from the brink of extinction to a very vigorous organization. As Tom pointed out in his last editorial, PAMPA membership levels seem to mirror the size of Stunt News. Tom Morris' excellent work is the key to the quality of Stunt News. Tom has set the standard very high for all following editors. In years past, there was no internet for easy communication. The newsletter was assembled by a cut and paste effort. Tom started that way and progressed through the computer revolution. All of this took a tremendous effort on his part, and we all should be thankful for his efforts. I certainly am!

We all recognize the quality of his



work. I see that each and every issue as people anxiously await their new Stunt News, and start complaining when it doesn't arrive exactly on time. Who complains when their junk mail arrives late! Each issue was chocked full of interesting information. I'm sure you're much like me in the fact that I always read every word in each issue. Again, this speaks great lengths to Tom's ability to supply our insatiable craving for this information. Tom, you did a great job, and I personally thank you for all your efforts with Stunt News.

Now, it's time to move forward. A new Tom is our editor. Tom McClain has volunteered for this position, and was confirmed by the EC. He's found a publisher that will move forward with us, again as technology marches on. The sample prints they generated support the high quality we have become accustomed to. All the associate editor positions are filled, and I anticipate Stunt News will contain more useful information for all levels of members. To see who has filled the vacant positions, see the staff listing at the back of this Stunt News. Wish Tom well by supplying him with an article or photographs.

Yes, the new EC has been busy this first month of operation. The first order of business was to

announce, discuss and confirm the new editor. This did cause several issues that had to be worked through. As you may have known, there were two district directors that had issues voting "For" Tom, as they had personal issues with Tom. The problems came when their constituents made it known that they wanted them to approve Tom, and nothing short of that would do. During the confirmation process, I spoke with each of them, and agreed that an abstention would be acceptable as opposed to violating their own personal ethics. If anyone in either of these two districts has an issue with that, please call or e-mail me, as opposed to the district director. I took this position as I didn't want either of the two to leave their positions, as I know they both have useful things to contribute to the operation of PAMPA. Unfortunately, Kent Tysor has been having health related issues, and this extra pressure didn't help. As a result, Kent decided that leaving his position was in his best interest for improving his health. Kent, I hope this helps as I want to see you back out there having fun like we all should. The results of the confirmation voting can be found on the PAMPA web site: www.control-line-org.

The next order of business was to find a replacement for Kent. Several



names were suggested, and all three that were named agreed that Bill Little was the person who should replace Kent. A vote was taken, and Bill was confirmed unanimously. Again, these results are on the PAMPA web site. No sooner than Bill was confirmed, Mike Pratt announced that he would have to step down. It seems that Mike had tested the job market in Arizona, and was not planning on staying. However, things never go as we wish sometimes, and Mike will not be returning to District 9 any time soon. As a result, he has resigned. Mike has suggested Carl Shoup as his replacement, and as we speak, we are in the confirmation process.

As I write this, we are clearly in the middle of "the building season" for most locations in this country. OK, I don't want to hear it from my southwest friends, who don't live that reality. By the time this comes out, it will be time to fly the new plane. Being that I usually go to the Nat's each year, I have a set schedule I go through to prepare. I usually like to put in the first flight in early march, and work out any basic trim or engine problem that exists then. April and May is spent adjusting and trying different trim settings and props. June is then spent doing nothing but practicing for the big competition. Now that it's first flight season, I wish each of you the best for the upcoming flying season, with no "problems" to have to work around.

Until next issue, enjoy your first flights! - Paul Walker

Vice President's Report by



Ted Fancher

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Hi guys and gals,

This month I want to talk about stunt planes. Oh, boy, do I!

I didn't really have a lot I wanted to say (except a belated attaboy! to Bobby Hunt for once again taking top level stunt outside the box) so I went in search of ideas. Lo and behold, good old reliable Stuka Stunt Works Forum provided exactly what I needed.

The following was posted by my good friend PTG (who shall otherwise go unnamed to protect the innocent ... or guilty, depending on one's point of view). Nobody knows who this is, right?

"Over the past 50+ years I've designed and built a few planes. Learned a lot about stuff and continue to learn. I enjoy lurking the boards when time permits and occasionally contribute, again when time permits.

Anyway, there is one question I

have and have never seen anyone ask.

What is a good wing and what is it supposed to do specific to controlline aerobatics? OK that was two questions in one but what is it?"

The thread got me to thinking. I thought I'd take a shot at the question.

First of all, I think it is important to ask if it is the right question in the first place. Does the question have any real meaning? Can it be productively answered as stated? I would say no. The question can't be responsibly answered without a lot more information.

For instance, you might say that a Nobler wing is the answer. Given its competitive record there is probably a good argument to be made there. You could say a Barnstormer wing is the answer. Not a bad choice; or a Jamieson; or an Impact; or a Pattern Master. All are proven winners. Unfortunately, all are distinctly different. Shoot, it appears naming a particular design's wing clearly isn't a good answer at all.

In order to answer the question productively you first have to define a mission statement of some sort and then work backwards to derive a wing that could be considered a "good" one (maybe similar to one or more of those previously mentioned ... but, maybe not). Which begs the question, what is the mission of a stunt wing?

In its simplest form, the function of the wing is no different than it is for a speed ship, a sailplane, A Cessna 152 or a B-747. That function is to provide the lift necessary to do its job. Whatever that job is, that is the



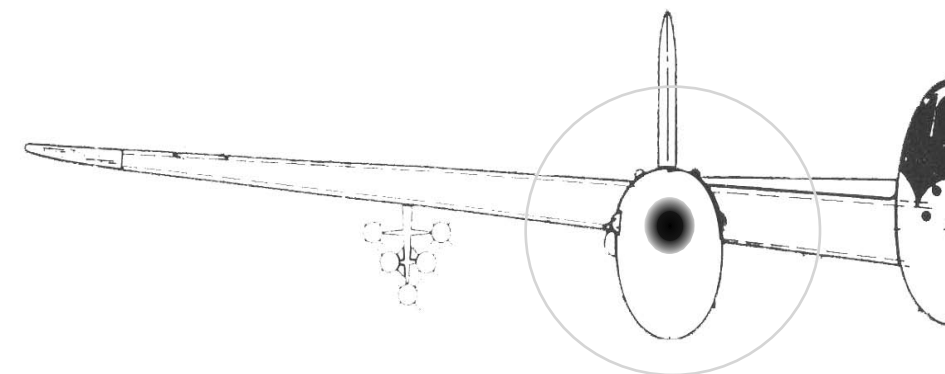
mission the wing must satisfy.

Which begs yet another question. If providing lift is the only function of the wing why is it that we can have such a variety of wing configurations all of which seem capable of putting the Walker Cup on the mantle under the right conditions? How can so many different wings be the "right wing" for controlline stunt?

Now we're getting somewhere! The important phrase above is "the right conditions". The fact is, the wing isn't the only thing that is different between the various planes listed above. Although there are distinct differences in the wings; including the use of flaps on some and not on others; thin sections versus very thick sections (airfoils), sharper and blunter leading edges etc; the even more important differences are the usual wing loadings and airspeeds at which the various designs perform their particular version of our "tricks".

Ultimately, in fact, it is the last items that drive the ability of the various configurations to do the tricks based on the final piece of the puzzle. That final and ultimately most important factor is power available. If you've got lots of power you can produce more thrust; which allows you to over come more drag during maneuvering; which means you can camber your wings (deflect flaps) to produce more lift from a smaller area; which allows you to carry more weight and ultimately, fly slower at a higher wing loading than a bigger winged and lighter ship with no flaps and marginal power available.

The bottom line is, the mission



statement has to include a rational examination of the power available.

The less power available, the more important it is to keep wing loadings low and minimize drag, especially induced drag from the creation of lift. Additional drag in maneuvers, uncompensated by thrust, results in loss of airspeed which results in loss of lift which requires higher angles of attack which they produce more drag and the dog chases it's tail until the energy is all gone. As a result, OTS designs tended to be large in area and not utilize flaps and fly at comparatively very high speeds. Remember the tales of 80+ MPH Stunt Wagons and Barnstormers and Zilches, etc.

Modern designs like the Impacts and SVIIs and Trivial Pursuits are perfectly comfortable flying patterns at wing loadings as much as twice that of the OTS era designs. They can do this because the power and resistance to slowing under drag

of modern powertrains means their wings can be configured to produce the lift necessary even if the drag that results would sap the ability of lesser engine/prop combinations to do the job.

Given the above, how would we go about determining a good wing?

First, forget the canard that wings are really complex and need a lot of high tech computers and magic to make them work. We see "wings"

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When wings produce lift they also produce drag, called induced drag. Aspect ratio becomes an important issue here as shorter spanned wings of a given area produce more drag for a given amount of lift than long wings. This is an issue if power is limited; less so if power is ample.

ample it simply isn't a big deal.

Right about now you're probably asking yourself if there are any aspects of wing design which have any affect whatsoever on stunt model performance. Yeah, there are some basics that should probably be part of any design endeavor. Let's stick with the almost standard flapped wing in the following discussion. There's only so much space available.

Wing area should be commensurate with power available and aircraft weight. Wing loading (weight per unit of wing area) is real and must be considered. Temper that with the realization that airplanes have won major competitions with a large range of wing loadings. By pointing at a single example a case can be made either for ultra light weights, the Bob Gieseke and Billy Werwage approach; or for ultra high wing loadings, Bob Baron's 80+ ounce Pattern Master. Walker Cup Champions all, yet the wing loadings are dramatically different.

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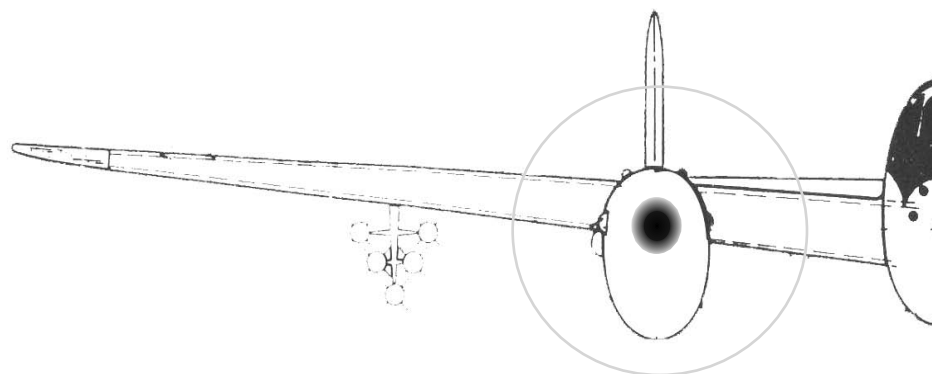
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Properly configured (flap size and movement for the most part) a wing loading of anywhere between nine to ten ounces per square foot (144 Square inches) and seventeen or eighteen/square foot are potentially viable. Just remember, lighter weights will demand less thrust, less flap area and/or movement and possibly slower airspeeds (assuming fast enough to give the line tension necessary for control deflection). Heavier loadings require the opposite, more thrust, more flap area and movement may be necessary. When designing it is valuable to know which end of the weight/power spectrum you'll be looking at and bias your area and



flap size accordingly on the drawing board.

The wing should be rigid. Heck, the whole airplane should be. Brett has convinced me of that. Forget the flap like a butterfly business. Make the wing good and rigid. Light and rigid is best. Heavier and rigid will likely be better than lighter and flexible (within reason. Humor

me!).

Leading edges should not be sharp. Sharp leading edges result in a wing which stalls at a lower angle of attack. This unnecessarily restricts the amount of lift of which the wing is capable and reduces the amount of weight it can carry and still be competitive in the tricks department. I'm purposely leaving the definition of "sharp" up to the reader. If there's any doubt in your mind as to whether you'd call it sharp, blunt it up a bit. You can live with a pretty blunt leading edge but too sharp can eat your lunch. (On the other hand, of course, you can always make it blunter. Making it sharper is harder)

Flaps should be no more than 25% of the wing chord at any location and can be from half span to full span. If your ship tends towards the lighter end of the spectrum or has a powertrain of modest capability, tend toward 2/3 span or so to reduce the drag that comes from the cambered wing. If you anticipate or tend to build in the higher wing loading area plan full span flaps of between 20 and 25% of the chord for their entire length. Flap elevator ratio must be adjustable to optimize the lift required to lift produced relationship.

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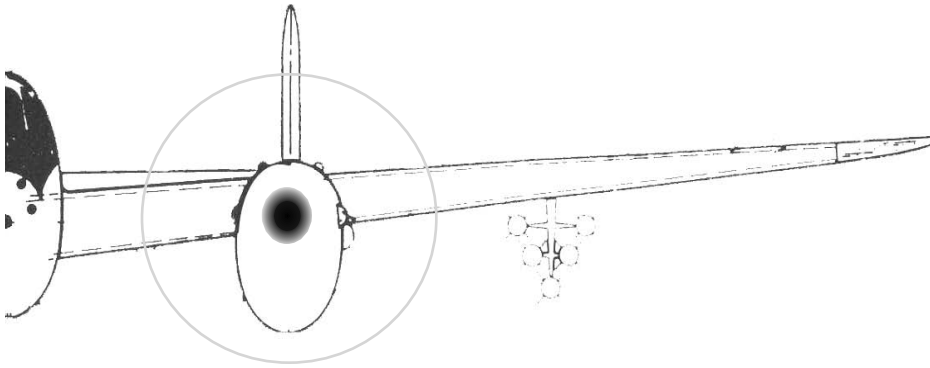
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canned flap/elevator ratios, i.e. one to one, two thirds to one, etc. With the ratio adjustable you can make dramatic differences in trim by in-flight testing. Do not be afraid to use more flap than elevator movement if the airplane is a little "hefty". Nothing bad will happen.

Wing thickness works more or less in concert with the leading edge radius. Thicker wings with fairly blunt leading edges will go to higher angles before stalling and can, therefore, carry a bit more weight. They're a bit draggier sure, but, remember, airfoil shaped surfaces aren't big producers of form drag. The induced drag will be higher the greater the wing loading but the thicker wings can handle the angle of attack. And don't worry, the powertrains appropriate for such designs will eat the drag without burping.

Make the wingtips any shape you want. Just be sure there are two of them, one on each wing (unless, of course, you're building a biplane in which case you'll probably want more of them). I've bandied about the concept of my swept back jet style tips improving the aspect ratio, etc. over the years but, bottom line, any possible effect is lost in the noise. I think they look cool and that's the biggest reason you see them on my ships. They are, however, tons harder to build and

much more prone to misalignment.

Stunt ships have aspect ratios around five to one for very good reasons. That has pragmatically (in the real world) proven to be a fine compromise between the benefits of higher aspect ratios and their commensurate drawbacks. The nice thing about a modestly greater AR is the fact that longer wings produce the required lift at a lower angle of attack and thus might prove beneficial if you're contemplating a higher than ideal weight for a ship with modest power. A very high AR stunt ship can fly patterns with very modest power because the lift produced per unit of drag is lower. Don't let yourself get enamored with the idea, good as it sounds, however. This low drag at high lift will get you into trouble in high winds as acceleration and wind up in consecutive maneuvers becomes more difficult to control. Give any significant variation from an AR of five serious thought before committing to construction.

Lastly, another way to optimize your wing has nothing to do with its shape or appearance. Always remember that lift varies as the square of airspeed and finding the best airspeed for your particular combination of parameters ... wing loading, flap size, leading edge radius, and so forth ... is a very valid design/flight trim parameter.

Remember, full scale designers always have a significant portion of their "mission" defined by design airspeed and their resulting wing will conform to that mission. That works the other way as well. If your ship wants to fly faster or slower than you prefer at the handle. Let it. Change the line length to make you happy and let the plane fly at the speed that is best for it.

So, there is no single "good wing" for stunt. As a designer you can't really pluck one off the shelf and say, "that's the one". You need to look at the mission. You need to evaluate the variables of your desires and planned equipment as well as your personal preferences for flight characteristics, etc. Then you need to back off from that mission statement and ask yourself what modest changes to the fundamental requirements for producing the lift necessary are appropriate for my design and my power-train. Remember, if the wing is remotely in the ballpark in the primary parameters, it is unlikely to be the cause of either a hopeless hangar queen or the next Walker Cup Champion.

Five to one aspect ratio plus or minus a couple of tenths. Enough area to keep the wing loading appropriate for the power train ... a pretty wide range of acceptable numbers. A reasonably thick rigid structure with a leading edge that will never be used to cut the prime rib ... thicker and blunter as expected wing loading increases. Flaps appropriate for the wing and power loading. One wing tip on each end of the wing.

That's about it.
Ted Fancher



Secretary Treasurer's Report by



Shareen Fancher

158 Flying Cloud Isle
Foster City, VA 94404
(650) 345-0130

RECRUITERS FOR PAMPA

Listed below are PAMPA members who took the time to tell others about the benefits of membership in PAMPA and, especially, the publication of Stunt News. We wish to take the time to say thank you to those members who have promoted PAMPA with such enthusiasm in 2005.

John Brodak
Bob Dixon
Robert Duncan
Martin Gafner
Randi Gifford
Allen Goff
Bill Heyworth
Elaine Heyworth
Bill Hummel

Frank McMillan
Marilee McMillan
Dee Rice
Crist Rigotti
Dan Rutherford
Ken Scott
Don Still
Andrew Stokey
Robert Storick
Reg Towell
Kent Tysor

PAMPA MEMBERS DONATE FINANCIALLY

Besides having many PAMPA members donate their time and energies into putting on contests, sending articles to Stunt News, trying to get young children involved with stunt we also have some members who contribute financially to PAMPA. Listed below are name of those individuals who contributed to PAMPA in 2005. We wish to thank them all for their contributions.

From the Nationals we received donations from the groups who ran Old Time Stunt, Classic Stunt and Intermediate Stunt. Other contributors are:

Jim Armour
Curtis Bailey
Doug Barton
Marshall Busby
Dennis Choate
Scott Dinger
Julio Fuentes
Randi Gifford
Russ Gifford

Christoph Holtermann
Bill Jacklin
Robert Kruger Jr
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New Flight Trim. From ARFs to world class ships, useful information everyone can use. DVD-R or VHS. \$14.95 plus \$5.00 S/H.
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Starting Balance as of January 1, 2005						\$ 75,621.74
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		General		\$ 10,522.00		
				\$ 11,039.00	\$ 11,039.00	\$ 11,039.00
	Dues			\$ 67,598.40		\$ 67,598.40
	Pampa Products			\$ 5,266.76		\$ 5,266.76
	Stunt News			\$ 127.00		\$ 127.00
				\$ 87,131.16	2005 Income	\$ 87,131.16
						\$ 162,752.90
Expenses						
	Awards			\$ (28.50)		
	Bank Fees			\$ (878.67)		
	Communications			\$ (290.21)		
	Nationals					
		Banquet Income		\$ 1,134.00		
		Banquet Expenses		\$ (1,376.23)		
				\$ (242.23)	\$ (242.23)	
	Postage					
		Officers		\$ (1,777.94)		
		PAMPA Products		\$ (806.99)		
		Stunt News		\$ (25,847.31)		
				\$ (28,432.24)	\$ (28,432.24)	
	Printing					
		Officers		\$ (2,461.39)		
		Pampa Products		\$ (129.27)		
		Stunt News		\$ (49,902.32)		
				\$ (52,492.98)	\$ (52,492.98)	
	Refunds			\$ (35.00)		
	Supplies					
		Officers		\$ (241.56)		
		Pampa Products		\$ (5.30)		
				\$ (246.86)	\$ (246.86)	
	Tax Exempt Status			\$ (25.00)		
	Tax Preparation			\$ (475.00)		
				\$ (83,146.69)	2005 Expenses	\$ (83,146.69)
					Ending Balance as of December 31, 2005	\$ 79,606.21



Editor's Report by



Tom McClain



Bob Storick

Hello from Arlington Virginia. I am Tom McClain and the newly appointed Managing Editor for PAMPA Stunt News. Bob Storick, St. Louis Missouri, is the new Stunt News Assistant Editor and we are the new editorial team. We wish to thank Paul Walker and the PAMPA Executive Council for entrusting us with this responsibility. Bob and I would like to introduce the Stunt News staff for 2006. They are as follows:

Desk/Text Editor
Robert Storick

Photo Editor
Ken Budensiek

Advertising
Floyd Layton

PAMPA Products
Curt Nixon

Contest Calendar
Howard Rush and Jim Snelson

Contest Reports
James Mills

PAMPA Rules
Alice Cotton-Royer

Competition/Judging
Gary McClellan

Historian
Wynn Paul

OTS/Classic Stunt
Mike Keville

Designing/Finishing
Brett Buck and Randy Powell

Building
Robert Storick

Crash Repairs
Windy Urtnowski

Safety
Ron King

Clubs
Scott Richlen

Beginning
Doug Dahlke

Power Train
Curtis Shipp

Ball Diamond Flyer
Jim Harris

Personalities
Louis Rankin

Flying
Owen Richards

Sport Flying
John Ashford

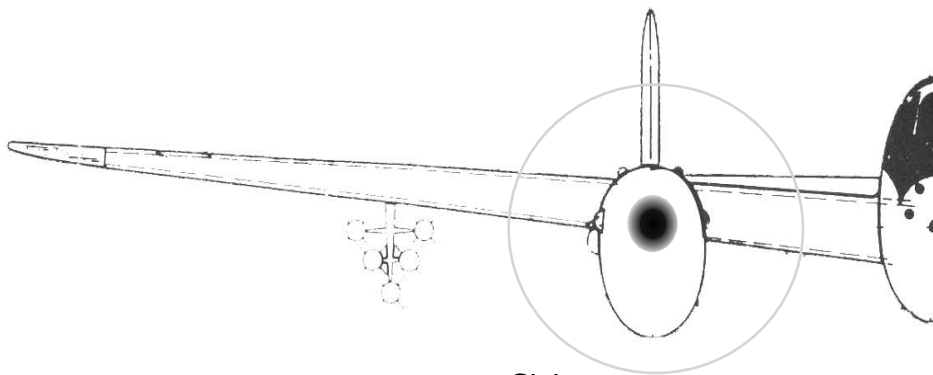
Cyber Notes
Bill Jacklin

We Have the Technology
Noel Drindak

Bad Boy Stunt
Dan Rutherford

Classic Plans
Tom McClain

That is your staff and they need your (the membership) input and help to make Stunt News successful. We continue to ask for volunteers to provide that essential input.



Now, so that all of you can get to know us better, Bob and I will give all of you a brief background description on just who we are and from whence we came.

I, Robert Storick, grew up in southern California. I started flying control line stunt at the age of 9. My parents owned a hobby shop in West Covina. I grew up around some of the best builders and finishers bar none! Tom Warden and Bill Noyes are the mentors that I learned from and the many that flew at Whittier Narrows.

My love for airplanes grew to the point that I later joined the US Navy. I was in one of the first F-14 Tomcat squadrons and I had the privilege of designing the VF 211 squadron colors and the Bicentennial aircraft paint scheme flown at Naval Air Station Miramar CA during the Bicentennial celebration.

I now reside in St. Louis, MO and am a member of Lafayette Esquadrille model airplane club. I have literally built hundreds of control line stunt ships. From free flight stick and tissue models, to the Randy Smith SV series, and all the way to the Billy Werwage molded P-47 Thunderbolt. Since the advent of the new glues, finishing and space age composites, it has made the task of building a modern stunt ship a breeze.

My mission as the new desk editor is to make the magazine the most technological and easiest reading publication on the planet. That being said it will be hard to fill our last editor's shoes, but I will give it a 110%. I am not sure enough could be said to thank Tom Morris for his years of outstanding service.

I, Tom McClain, grew up in southwest Michigan farm country and left home at 18 for the Air Force Academy. I earned my Air Force commission and married my wife, Sheryl, of 30 years in June 1975. I spent the next 27 years in the Air Force, the Air National Guard, and the aerospace industry, until I retired from the Air Force in December 2001. I now work in the Washington DC area as a defense contractor. We have two grown children, Daniel, a teacher in Philadelphia, PA, and Karen, an information technology specialist in Arlington, VA.

I built my first flying model at the age of 10; a Comet rubber powered free flight Fokker D-VIII, and assembled and flew my first control line models at the age of 14. Those models were the Goldberg Shoestring and VooDoo, and the Sterling F-4U Corsair. I taught myself how to fly, but never accomplished control line aerobatics until 1990. During my time at the Air Force Academy, I went into RC aerobatics and competed in Advanced class RC Pattern until 1993.

I have been an Academy of Model Aeronautics (AMA) member since 1973. I joined PAMPA in 1998, the same year I learned to fly the entire AMA event 322 precision control line pattern. I have never looked back and subsequently have sold all of my RC equipment. To me, precision control line aerobatics is the epitome of aerial ballet. I thoroughly enjoy the man machine interface and find it a challenge to master the pattern in all of its intricacies.

I have been up and down the

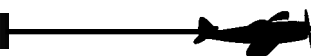
east coast to many contests; Garden State Circle Burners, Bergen County, Metrolina, King Orange, Brodak Fly-in and the Northern Virginia Control Line (NVCL) Walt Musciano Commemorative of which I have been Contest Director several times. I have also participated in the Vintage Stunt Championships twice and have attended the NATS as a spectator.

I have built many of the classic ships; Argus, Atom, Price Crusader, Suarez Phantom, Quasar, and Cobra. I have designed and built several of my own control line stunt ships; NF-104 Starfighter, Reno P-51D Fancher Mustang, and my latest, the B-26C Martin Marauder built as a control line stunt ship from Flying Models scale RC magazine plans.

During my time with NVCL, I have been the club Secretary/Treasurer and for six years its Newsletter editor. I am also the AMA District IV Associate Vice-President for northern District IV.

You make Stunt News Great! If you have an idea or article you would like to see published, please feel free to send it along with your pictures. I and our staff will do everything in our power to see it gets published in an informative and precise way.

We, the Stunt News staff, are honored to assume these positions of great responsibility and will perform those duties with humility and introspection. We cannot do this alone and in that light, Paul Walker, the PAMPA Executive Council, and the Stunt News volunteers have provided us with the tools and great staff to make this effort a success. We are sure that we will provide



you with a newsletter that will meet and even exceed the excellent benchmark that Tom Morris, the retiring editor/publisher, set for all of us on the Stunt News staff.

We will not change anything substantial about Stunt News. Who can argue with success? One of our goals will be to improve on what is the best seen to date. Stunt News will serve all of you in the furtherance of the PAMPA charter, which is to "improve the Control Line Precision Aerobatics event." Our vision of how Stunt News will serve PAMPA members is to promote and facilitate the flow of information that will benefit all Control Line Precision Aerobatics enthusiasts, regardless of skill level or their interest and participation in competition.

Some things you will see in the future are original art by Mike Keville and CAD/CAM plans by Bob Kruger and Larry Cunningham. Randy Smith will provide some intriguing articles on engines. Some plans that you may see are the Kismet, Lew McFarland's Shark 35 and Dolphin, Tom Warden's Trophy Trainer, Minado and Continental,

Ted Fancher derived profile Mustang, Tom McClain's T-tailed NF-104 Starfighter and B-26 Martin Marauder. Brett Buck and Randy Powell will provide cutting edge articles on designing and finishing. Bob Storick will talk about how to build fast, light and true. Windy will continue to explain why you should not throw away that wrecked stunt ship. And the rest of the staff will do their customary professional job

of providing all of us with best up to date information that we have come to expect.

Well, that's it for now. We look forward to the coming year and continuing with what is inarguably the best AMA SIG newsletter

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It's January.... It's New England... The Patriots are in Disney World, and I don't have any Moon Brothers stories to tell... What's a district director to do? Well, today is 60 (Yes 60 deg) the wind is blowing and the golf course is open... Nuf Said.

Dave Eyskens has the Turbo Beetle running like a top. He and Woody are spending lots of building time together, and what is really fun to watch is that BOTH of their building skills are improving. They both have unique, yet different skill sets that compliment each other, and as a result both of their new planes are most likely going to be very competitive. Watch out Woody... I see some wild trim schemes in your future... No more "Pussy Galore Blue" or "Midgley Maroon" for you Baby!!!! And David, there has never been a crooked wing emerge from Woody's shop... As David Says... "Just Grab the Handle"

Speaking of "The Handle" probably the coolest thing happening in the Northeast is the rebirth of

District I Report

the NEST Newsletter at the hands of "Rocky the flying squirrel" and "Boris Crashpolski" (Alias Rick Campbell and Steve Yampolski) Rick had the novel idea of creating an e-newsletter, and with the help of Steve, they have published what I hope is the first of many "Handles". It is great work, and reflects the news in New England. The newsletter is available complete with color pictures, and if you have the secret download code, you can print free Cravings ice cream certificates all day long. The winter is typically slow at Cravings, so if you have a few moments to spare, stop by. If Rocky is there, he will most likely pull out his guitar or his latest stunt ship. If you have a computer, it is definitely worth taking a look at. To get on the e-mail list for the handle, you can contact either Rick or Steve.

Mrs. Woolsey hosted the NEST Christmas party with help from her hubby. It was a snowy afternoon, yet the turnout was great. As usual, the Yankee swap was a hit. There were a few of us vying for the bottle of Baileys Irish Cream, and it came down to Emma Campbell and I. All I remember was Emma looking at me saying "If you ever want a free ice cream from my Dad's place again, you had better leave the Baileys right where it is Mister." In the end, the Minor got the Booze, and I got the shaft...

My Spy in Connecticut (Mr. U-reely) tells me that there isn't much happening this month in CT, but other sources tell me that Mr. Suarez has started "Preparing" his shop. Hopefully 2006 will see a new plane from Robbie Circle. Bill

produces some of the finest work in the country, and what is really interesting about a new plane from Billy is that you can look at it for an entire season and still not see all of the small details that go into one of his planes....

The 107 Crew promises that next year there will be more grass to mow, and only enough wind to keep the greenheads down in August. Len Harding has "Guaranteed" One hundred straight days of perfect flying this season at the 107.

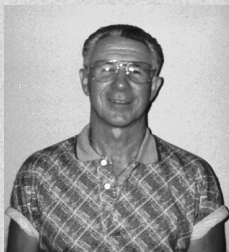
Obviously there have been a lot of changes in leadership in the past month or so, and by now (If you don't already know) We have a new Stunt news staff, district 4, and Dist 9 directors and Oh yeah... that new President guy. To date, I can honestly report "So Far.... So Good" It looks like Paul is going to keep us all very busy with a list of agenda items that range to reworking some of the bylaws to the builder of the model rule... In the past year, I have learned that there are many members of Dist I who are happy to simply "Go with the flow" and are not interested in what is happening at the EC level, while others are very interested and want their opinions considered during the voting for different agenda items that come up. For those who are keen on knowing what is going on at any time with the leadership of your organization, I ask that you call, or e-mail and I will be happy let you know what is current, what we are voting on, and also let you know what the consensus of opinion is on any issue. It would seem that PAMPA is continuing to move in the direction of membership having



more of a say in what happens, so if you have an opinion about something, contact me and I will make sure that it is considered. As your representative, I am always happy to justify the vote I cast on any particular issue.

I am learning how to deal with photos, and hopefully in the near future, I will have someone helping me with getting photos from Dist I into the column... Any Volunteers?

New York, New Jersey



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Mike Cooper got his new Strega airborne at last. He made the right decision waiting through our humid season, and the final clear looks great. The RO-Jett .61 purred like a kitten right out of the box. His paintwork is a good copy of my original and looks good in the air (in my opinion), and Mike's only mods to the Brodak kit were a thicker bottom block to enclose the pipe. It's very similar to Kent Tysor's and Dorin Morisanu's renditions. Looks like Mike has many years of good flying ahead of him-he moved up to

District 2 Report

Expert last year, and now he's got a top-level ship to compete with, at last.

Our G.S.C.B. field was under several feet of water last season, but thanks to Rich Giacobone we have the Palisades Park and Ridgefield Park sites. A club can never have too many sites, and Rich is already working to get us another. His new bent-wing Stuka is under construction, after a month of template making by the master, Les Demmet. This will have a RO-Jett .77 and Dorin's (Gator Props) 14x4 three-blade prop, and the bent wing has been produced by John Duncan from Les's extremely accurate templates. Rich always has a "Stuka rivalry" with our friend Matt Neuman, and I think Rich's latest effort will raise the bar.

The wings we made at Dave Midgley's "Buildathon" are really nice, and working on the final finish is a snap: no holes in open bays, no warps, and bulletproof gear blocks. Look for more of these in the future-right now, they are the best wings I've ever seen. Mine is already painted and ready to install in my Testarossa for next season.

Paul Winter's twin Saito .40-powered Tsunami has been dubbed Toonami...or is that Twonami? Paul is hooked on twins, something I know a bit about, and I'll bet Gordon Delaney does, too. It's hard not to like twin stunters-I'm glad so many are now under construction.

Buddy Weider competed very successfully with his O.S. Max .46-powered Cavalier from Tom Morris. He's now building a custom design

for a RO-Jett .77. Buddy and I were kids at the same time, and he was a talented young man, indeed. I'm glad to see how enthusiastic he is about the 2006 season.

Bill Zimmer sends me nice notes from time to time. He's got an interest in model railroading, too, but recently he reminded me of our adventures with O.T.S. ships in the early '80s-those memories are priceless. Bill's contribution to our judging corps is legendary, and I'll never forget when he told me to get a haircut if I wanted to get better scores. I did, and it worked! Thanks, Bill!!

Chuck Feldman has enjoyed interacting with me. He's taken some advice, and I've heard through the grapevine that he's really getting better. He's a very good student, and I hope he'll help some other guys up the ladder when he can.

Reuben MacBride recently had another surgery, this time to repair a hernia-since I'd had similar surgery recently, we had a lot to talk about. One thing he was not happy with is that his new Strega was coming out right on the target weight... until he decided not to use Brodak dope. Instead, Reuben opted to use "another paint" in spray cans. The ship's appearance was fine, but the extra weight put the CG way aft, requiring extra nose weight on an already overweight ship. It hasn't flown yet, but it's a shame to add extra weight when you don't have to. I'm going to try to help him trim it out as built, but it would be a lot easier without the extra weight and aft CG. Being lifelong friends with Reuben, I feel his hernia pain,



his weight pain...and now we have a real challenge coming up this flying season to get his new ship to fly in good trim. It will be a neat way for me to help pay Reuben back for all he does for us in modeling.

When I was young, I thought my youth would never end and that my friends would never get old. Boy, was I wrong. Come to think of it, Billy Suarez is the only friend I have who hasn't gotten any older-even his planes don't get any older. (Eternal youth?)

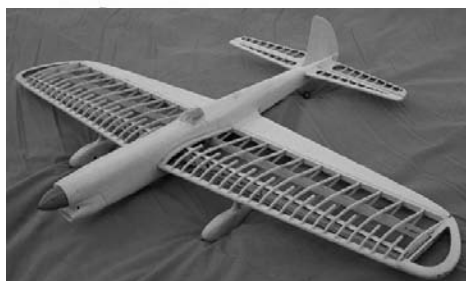
Like it or not, we're all getting older, and our ranks are thinning... but the memories of years gone by are priceless. I can still see Buddy Weider, John D'Ottavio, Eddie Elasiak, and Billy Simons flying Jay-Dee Falcons at the G.S.C.B. field...and Harrold Price flying the Valkyrie. If only we had video cameras back then! We were all so innocent and young, and I'm sure we thought old age and illness would never come our way. What great memories-they're something that makes what we do worthwhile.

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Hard to believe that we've entered another year already with all of the positive anticipations to do better this time around than ever before! I am anxious to wish all the new Officers of PAMPA and the new Associate Editors well as they assume responsibilities for the continued production of this fine magazine.

District 3 Report

In beginning the New Year as far as District 3 is concerned we must first revisit the concluding aspects of 2005! I was in attendance as a participant in the Capitol City Controlinners of Columbus' Stunt contest held last September 24th and 25th. This was probably the concluding engagement of this club to be held at Cooper Stadium on their parking lot. Over the years, when I was able to get there, Cooper Stadium was an ideal site with smooth clean circles from which to fly and bathrooms in relatively close proximity to the flying areas. CD Keith Bryant and his assistants ran a truly fine event for all of us! I will have a series of photos of many of the folks who worked to help make this a memorable event.

As for me this was my first effort at using a Digital Camera for all coverage of an event. In some ways its easier in others its more difficult for me! I usually create my text from referring to the picture essay I have produced! With no hard copies to work from it's like flying with a blindfold!

In the course of covering the Columbus meet we, the contestants and friends, were afforded the opportunity to mingle and chat while the rains poured down on the pavilion roof! This may sound as if it were a bad time but quite the contrary it afforded all of us a chance to visit and catch up on all that had happened over the past several months or weeks as the case might have been. While engaging in this past time, I was able to chat with Jerry Tarnofsky who is planning to move himself and Sue to



the greater Harrisburg, PA area. He informed me that he has purchased a parcel of land large enough to construct a very spacious ranch house and have enough ground left over for a full flying field in his back yard! Talk about fortunate I must admit I am filled with envy!

Jerry and Sue Tarnofsky have a new land telephone line. Their new (Vonage) number is : (717) 827-2136. Jerry tells me that if you have a Verizon telephone number this call to him is toll free!

In preparation for his move Jerry had an ARF NOBLER for sale with a Saito .40 installed. I eyed up this beauty and recalled Bob Zambelli's raving about the prowess of this engine. To make a very long story short, I left at the end of the day with this plane added to my hanger! I am grateful to Jerry for selling this outfit to me as it has proved to be an excellent flyer! The Saito operates most economically and the plane flies quite well in all kinds of weather conditions. The combination of a 10 X 4 APC with Power Master 20: 20 fuel is consistent and strong. I flew this in a near gale wind up near Erie, PA last October with the Bean Hill gang and it did all it was asked to do, the full pattern, with no complaints!

John Jordan of the Dayton Buzzin Buzzards of Dayton, OH sent me a complete disk report of his Western Ohio Stunt Championship Contest. There will be picture essay on this well attended meet following all these words. John Jordan of Dayton, and Keith Bryant of Columbus each did a fine job in soliciting manufacturers and local hobby shops to donate prizes to be chanced off to those in attendance.

Columbus and Dayton were treated to a Brodak .40 engine each as well as Brodak kits and accessories. Capstone Hobbies contributed to the Columbus loot, as did LHS's from the greater Dayton area. Tower Hobbies sent gift Certificates to Dayton. This club also benefited from a Rayco Handle donated by Bill Reynolds, and a Walter Umland kit donated by Roger Wildman. Not to be out done, John Jordan himself, CD and all, donated a gallon of fuel.

AS the winner of several really nice prizes in Columbus I must personally thank Capstone Hobbies for the Dremmel Tool set I won! I must also thank John Brodak for the Bi-Slob ARF kit I won as well! I must say I was a very lucky guy in Columbus! Thanks to all involved!

Well I started this column on Thursday the 12th of January 2006. As I recall about this time last year we had a warm up of a few days giving us a welcome break from winter's blues! Well the call of the great out doors beckoned to me Thursday and off to the field I went! Our temperature was in the high 50's pushing 60! I flew 15 patterns all by myself! Just couldn't pry any flying buddies to break away from their dens and get out in the sun! Fine, more field airtime for me! I enjoyed flying my blue Tutor with an FP .40 I had scored at an Akron, OH swap meet last November for \$15.00! Yes it was an RC version but appeared to have adequate compression and not too much evidence of abuse. Cooked this engine out in my crock-pot and added one extra head gasket, a venturi for an FP .25, and an OS NVA. I started out running a Power Point 11 X 4 prop and was truly satisfied with the runs, stunts and performance of the

engine. Friday the 13th I returned with the temperature on my van's thermometer registering 67 degrees on the way to the field! We usually only get treated to these kinds of days well into late March or mid-April. I flew again for 8 patterns but this time I changed to an APC 10.5 X 4.5 prop! This afforded me a quantum leap forward in engine performance and plane response! I couldn't have been happier! Today 1-14-06 we're back to normal January with temperatures in the low thirties and the wind and snow howling and blowing sideways! Hang on, spring will be here before we know it!

Paul Walker has asked all District Directors to canvass their constituents as to areas of concern they'd like the Executive Council to address and fix. I've spoken with many of you but not all. Please contact me with items of concern to you so that I might pass these items along to Paul and eventually bring them into focus of the entire group for solution or adoption for the betterment of PAMPA. My telephone number and e-mail address appears at the head of this column. Please get in touch with me with your thoughts and suggestions.

This month's tip is one which I stumbled upon simply because I am cheap! I have a stash of fuel, which has been accumulated over the past several years, over 10 to be precise! I found a gallon of Omega 10% fuel, which I had purchased in July of 1994! I had kept in the dark in a carton in my cellar since then. Well I mixed it half and half with some 5% Nitro, 22% Castor Oil, and 3% Synthetic Oil just to see if I could use it up! I mean ten years even for me is a

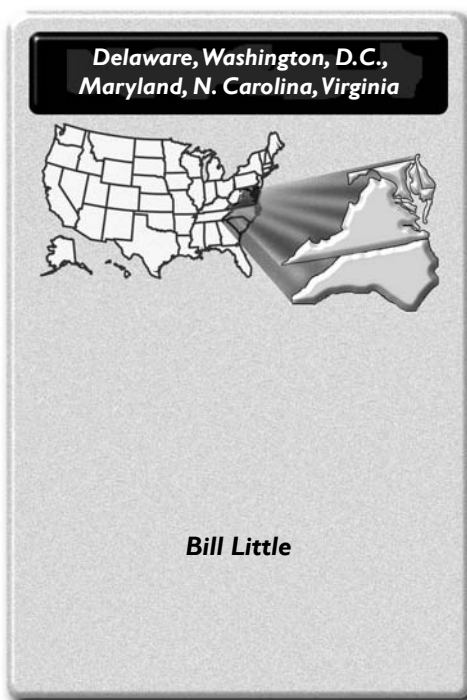


carton in my cellar since then. Well I mixed it half and half with some 5% Nitro, 22% Castor Oil, and 3% Synthetic Oil just to see if I could use it up! I mean ten years even for me is a stretch! This mixture worked quite well and I am glad I didn't pour the Omega on one of my brush piles to use it up as an igniter!

Dalton Hammett of The Bean Hill Flying Club invited me and several of my fellow Club members, to come up to the greater Erie, PA area last October for their last Sunday Fun Fly of the Year! Bob Crusan, "That 1/2 A Guy", Sumner Forrest, and I went on up that rainy Sunday morning not knowing what we would find! What we encountered was one of the most cordial bunches of guys and ladies one could imagine! We flew and then went in to Dalton's home for a buffet of fine food and drinks (all non-alcoholic). We flew all afternoon, drizzle or no. Finally left for home at what we felt was a prudent hour. We unfortunately missed the guitar serenade of Mike "Cobra Man" Ditrich and other fine memories. Next time we'll stay longer and partake of the evening ambiance! One result of the day's conversations and urgings is the establishment of yet another AMA Chartered Club. This fine group of people knows how to have real fun in low-key fashion. Look them up when you're in Northwest Pennsylvania.

'Till next time, keep in touch!

- **PHIL SPILLMAN**



First I would like to thank Kent Tysor for the job he has done for the Past several years as our District Director. I know it wasn't easy at times, but your hard work is appreciated! Looking forward to flying and judging with you again, soon!

Also thanks to the EC for my appointment. I look forward to working for the good of PAMPA and for District 4. We have a lot of great members and some very good flyers! I am proud to call those of you I know, friends.

I have been asked to give a brief bio, so here goes. I am presently a High School football coach, golf coach, and teacher. Have been since 1974, basically. I am married to a wonderful Lady, Gail, and have been for going on 35 years. We have two sons, the oldest, Aaron, fly's competitively in CLPA, and my youngest was a linebacker at NS State.

Two really neat grandchildren Alex (she's 5 and wants a plane!)

District 4 Report

and Gabe who already has a custom Dick Byron handle!

I really got involved in control line in 1963 flying "stunts" and only knowing the OTS pattern. We were pretty isolated here. I began flying competitively in 1990, I believe. Presently I am flying Advanced, but I will make a move in a couple years upon my retirement as I plan on burning a LOT more fuel, then. I have flown in two NATS, and will fly there again.

As this is on short notice, I have a few pictures from the KOI where

District 4 flyers had a very good showing. Flyers and Places are shown for District 4 members.

Thanks to Dale Barry and Steve Fitton for providing me with these so quickly!



Tommy Luper with Charlie Reeves launching the Humongus which was unfortunately lost later in the contest



Steve Fitton accepting his award in Profile test

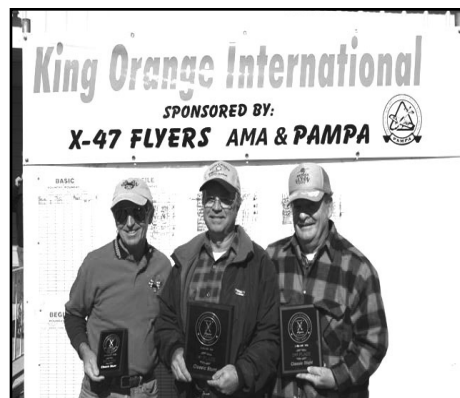




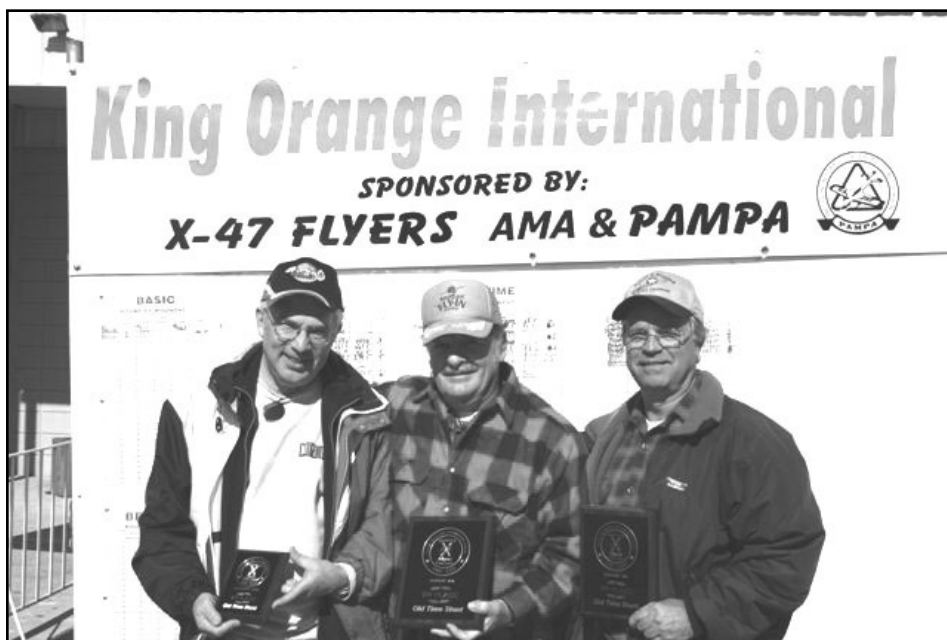
William Accepting his award as Profile winner



Larry Draughn Winner in Classic



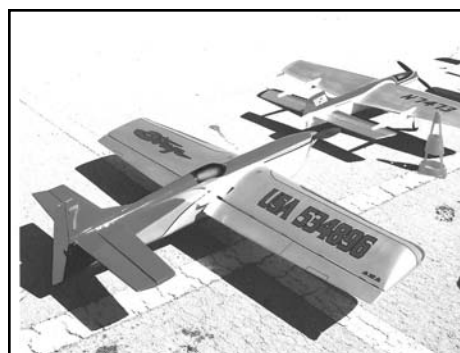
Classic Winners: Toby Acierno, Larry Draughn 1st, and Tommy Luper 2nd



OTS winners: Mike Ostella, Tommy Luper 1st, and Larry Draughn 2nd



Profile Winners: Roy Trantham, William Davis 1st, and Steve Fitton 2nd



Kent Tysor's beautiful Strega.

I am asking any and all members in District 4 to please supply me with pictures, information on what you're doing, and any contest results that apply to us! Looking forward to seeing my "old" friends and meeting all the "new" ones in our District.

Until next issue, Fly Stunt!

Bill Little



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



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Welcome to the King Orange edition of the District 5 report. The 51st KOI was held this year in Starke, Florida, sponsored by the X-47 flyers, Bill Hodges C.D. This is an exceptional site for a contest with 2 paved circles, large pit areas, room for 3 or 4 additional circles on the grass for practice and the hotels and restaurants are within a mile in either direction. Boy Scout Troop 70 provided a concession stand in a heated (very important) building.

Both Saturday and Sunday had excellent turnouts, more Mother Nature being the only fly in the ointment on Saturday. To say it was windy would be a major understatement, gusts had to be getting up to 30 mph, with sustained winds 15-20. How windy was it? It wasn't necessary to start your engine to crash. I walked away from my Barnstormer for a second and turned to find it ground looping through the pits! Luckily there was only minor damage, unlike at the other end of the field where Tom Dixon's Cardinal profile received enough damaged to make



Profile winners

it un-flyable.

Ty Marcucci volunteered to warm up the judges, well, that didn't go so well and his Pathfinder went in about half way through the pattern. When the officials started, after a couple passes, it got really interesting. My son Derek and grandson Gavin were up at the same time on different circles, with Derek lasting only a few more laps than Gavin. While the Ringmaster lives to fly another day, the same can't be said for the ARF P-40. I don't know if I've ever seen a plane bounce that high after hitting the ground or not.

Eight of the thirteen flyers in profile passed in the first round and seven in the second round. When the dust (and balsa) settled William Davis was first, Steve Fitton second and Roy Trantham was third.

Over on the Old Time circle things were about the same with six of eleven passing in the first round, though most everyone took their chances in the second round. After everyone was done, there was no surprise that Tom Luper was first, close behind was his flying buddy Larry Draughn in second and Mike

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Ostella was third.



OTS winners

Six of nine passed the first round in Classic and just a few braved the second round. The only fatality was Tom Luper's beautiful Humongous. When the wind gets to Tom, you know it's bad. Larry Draughn was glad he took a chance in the second round, even though it wasn't much fun his flight easily put him in first place. Tom Luper was second and Toby Acierno was third.



Classic winners

Sunday dawned completely different. It was cold, but the wind was almost completely gone, fact is later in the day the pilots were fighting dead air. At the start of the day there were 41 pilots who needed to get two flights each during the day, though it looked impossible at first, a slight change was made prior to the Experts starting that allowed it all to be done by 2:15. Every pilot was efficient at getting on and off the circles, so that what could have been a really long day turned out well.

There were four entrants in Beginner. Bobby Wallace finished first, Richard Antosowski second and Richard Fleming was third.



Beginner winners

Eleven guys vied for the Intermediate win, with Alan Buck from Pennsylvania and Don Sopka from Ohio being the long distance travelers. Ken Cerney was first, Toby Acierno was second and Brad Smith was third.



First placer Ken Cerney, Toby and Brad had left.

There were fifteen flyers in Advanced. Adrian Dominguez finished first with the best looking Ukrainian-made Shark I've seen yet. Mike Ostella was second and Don Ogren third.



Advanced winners

Expert was close, with only one point separating first and second. The long distance driver here was Wesley Dick, who I think came all the way from Indiana. Randy Smith was first, Derek Barry was second and Rob Gruber was third. At the KOI the top three Experts fly off for the KOI trophy, since Rob had to leave early this put Curt Contrata (fourth place) in the fly-off. If this was football I guess you'd have to say the wild-card team made it to the Super Bowl, and in this case won it all! Congratulations Curt.



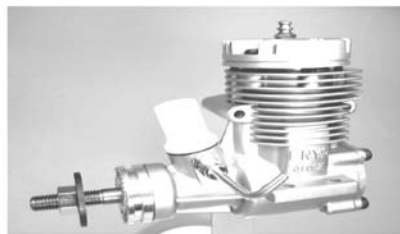
Fly-off pilots and open winners

All in all, this was a very enjoyable weekend, even with the wind. If you get a chance next year come on down and join us, the X-47 flyers put on a great contest and the site is great.





MVVS



enya

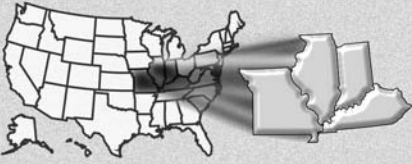
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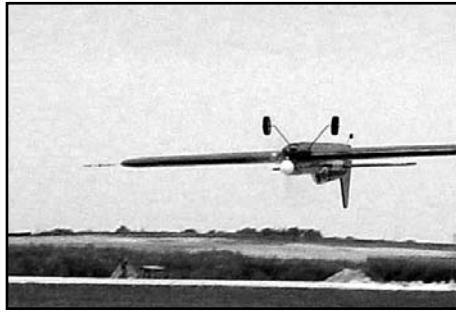
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Email: abkb801@shawneelink.com

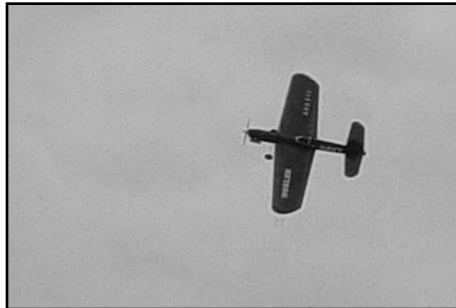
Again, I am playing catch-up with a variety of shots from the Treetown Modelaires and their event held at the Aurora, Illinois airport. The contest was run on the Sunday of the same weekend as the USA FAI Team Trials, which were held at the AMA Muncie, Indiana site on Labor Day weekend. The Treetown Modelaires have always held a very nice contest and Howard Rush, who was on his way home to the state of Washington from the Team Trials, can attest. Howard was "da man" in the Chicago area that Sunday as he took the top spot in Expert. The following captions describe the fun and fellowship of the northern

District 6 Report

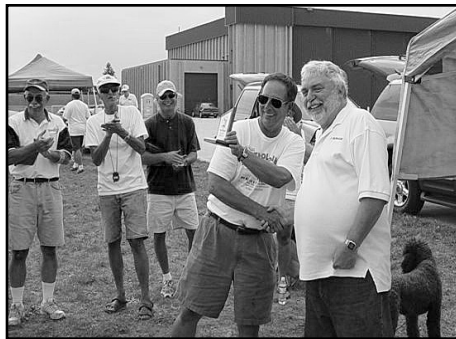
Illinois stunt people. Thanks to Michael Schmitt for the digital shots.



Alan's ARF Nobler inverted over the Aurora, Illinois airport on contest day.



Alan's wingover with the ARF Nobler.



Caught on camera are Fred Krueger, Russ Gifford, Larry Lindburg, Howard Rush and Jim Renkar.



Russ Gifford is either hiding from the camera; intent on a bellcrank adjustment or thinks he is in love with his model. Fred Krueger witnesses the activity.



Carol Layton provides working skill and beauty to the collection of stunt guys at the Treetown event.



Russ Gifford and Owen Richards (snowbird) take on judging duties in Aurora.



Crist Rigotti launches for, what I believe is, Alan Hahn's Top Flite ARF Nobler at the Treetown event.



Fred Krueger readies for a flight.



Larry Lindburg is featured in this quick shot.





The pits at the Aurora contest..



Alan Hahn and Jim Renkar relax from the noonday sun.



Lots of guys gather for the yearly stunt contest.



Another conglomerate of stunt pilots is caught at the Treetown contest.



Another conglomerate of stunt pilots is caught at the Treetown contest.



Terry Meidroth and Larry Lindburg prepare for the day's activities.



Another shot of Terry and Larry.



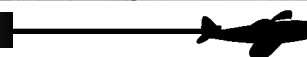
Jim Krueger strikes again from the Milwaukee (Brookfield) area.



John Paris's daughter tests the stunt waters in the Chicago area.



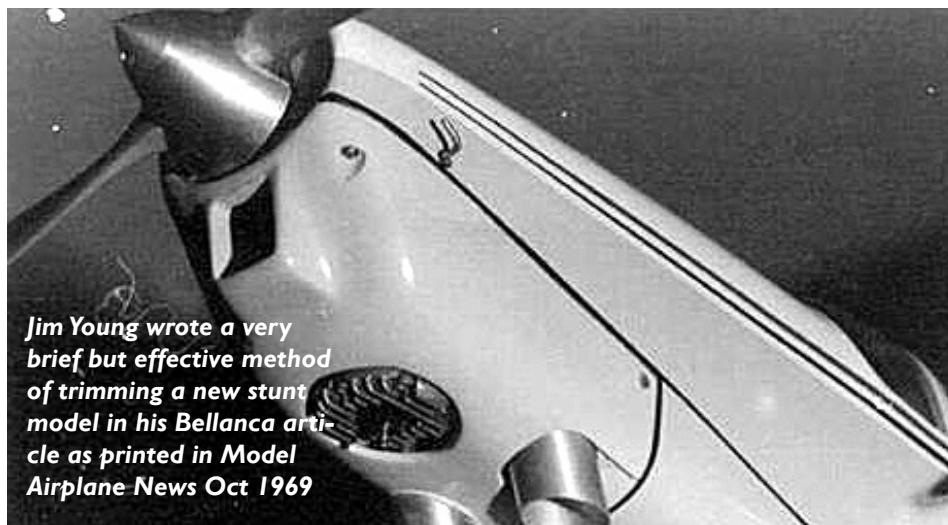
Larry Lindburg and his Brodak ARF Cardinal.





Corsair3

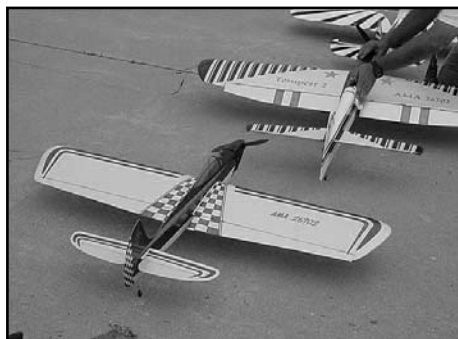
Mike McHenry of Speedway, Indianapolis has an affinity for the sixties styled Naval aircraft. His Corsair II is a wonderful example of his workmanship.



Jim Young wrote a very brief but effective method of trimming a new stunt model in his Bellanca article as printed in Model Airplane News Oct 1969



Michael again.



Michael's Oriental as depicted in an earlier Flying Models review.



Cannot escape the wrath of Fred Krueger's camera.



Howard's nicely finished and exactly flight-trimmed model



Fred Krueger draws near to get ready for an attempt.



Michael Schmitt (contest photographer) readies his Randy Smith design for a flight.



I received this shot of a re-badged Legacy. I like the yellow, red and black color combination. I am uncertain of the builder's name. I apologize for that.



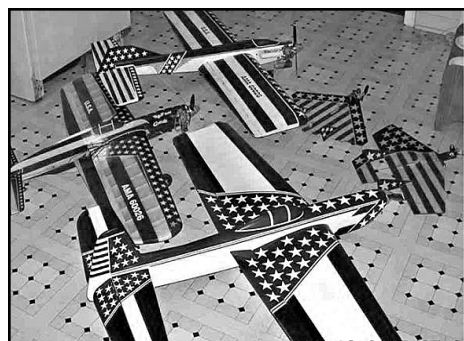
Jim Young's .35 powered Bellanca stunter during its heyday.



Hearns Demon
Jim Renkar sent me this shot of a Hearns Demon, which is legal for Old Time Stunt. Jim is contemplating building one of these for an upcoming VSC.



Bill Veslick's Legacy 007
Bill Veslick put together this nice Legacy.



Legacy Frank Carlisle 02
Frank Carlisle posted this on Stuka and depicts his new Legacy.



Legacy Ryan Nau
Ryan Nau also likes the red; white and blue paint schemes and included it on his Legacy.



Yak 55 01
Yuriy Yatsenko and his brother Andrea are producing a new version of their popular take-apart stunters powered by their own engines.



Scimitar 520 28
Keith Bryant has completed another design of mine. This is a full fuselage version of my earlier Scimitar profile kitted by Custom Models of Arlington, Texas. This is 520 square inches



Encore 50 72
Michael Schmitt is building one of my new designs, the Encore, which will be powered by any .50 to .61 engine.

Big Art Nobler 02
Bottoms for "Big" Art are done differently. The European crowd allows the top and bottoms to be strikingly different in color and trim.



Big Art Nobler 03
"Big" Art Adamisin really likes his yellows, and his recent Nobler exemplifies his color choice.



Illinois, Indiana, Kentucky, Missouri



Crist Rigotti

OK, let's get right down to business. It's been a very busy 16 days so far. I'm writing this on the 16th of January. The first thing we decided was a new Stunt News editor. Tom McClain was elected editor by the EC. Then there was 1 issue of Stunt News printed by 2 different vendors which we compared and then voted on which one we liked best. One was clearly a little bit lighter which helped the pictures show up better and was cheaper. I believe that one was also chosen by the EC. Due to the Kent Tysor resignation in District IV, Bill Little was elected to finish the term for District IV Director. A day or two later Mike Pratt resigned because he has moved out of District IX. As I write this the voting is going on for Carl Shoup to replace Mike. It's very important for me to have an email address for each member of the district. If you do not have an email address, we'll figure out something to include you in any questions and feedback that I may need from the district's members. I'll continue to keep our district

District 7 Report

well informed as to PAMPA business. I really do appreciate your feedback and comments.

Don't forget the Mid-Iowa Control Liners host their annual contest in Polk City Iowa. The dates are May 6th and 7th. They'll have pretty much the same events as last year. I hope with out the snow this time! Get in touch with Bob Baldus at 515.255.8025 for additional information. I'm including this information because the next issue of Stunt News won't be out till the first of May and many PAMPA members won't receive it till after the contest. Also I'll have a complete listing of contests in our district that have been firmed up.

I talked to Sam Sciorrotta and he's building 2 classic stunt models of Ed Elasick Jr's Impala. Both are powered by OS 40Fp's and are finished using Brodak dope. My understanding is that Sam is a master at finishes and I'm looking forward to seeing this pair at Polk city. When you have a few minutes don't forget to ask him about Monokote!

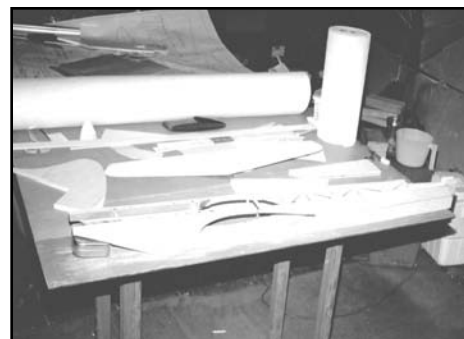


Here's Sam and Paul McIrrath judging at last year's Polk City contest.

Here's an update from Joe Connelly.

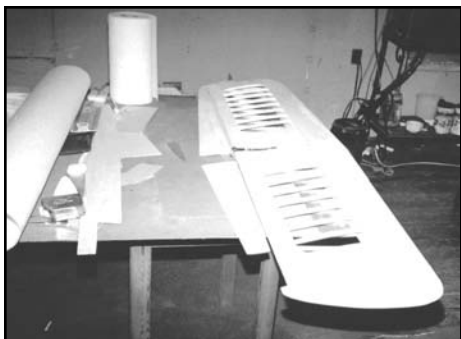
Crist asked us to give him some updates on what we are working

on, so here is mine. I decided to build a Nakke after seeing it in the "Planes" column by Ian Neillands. He stated in the article that it would do incomparable squares. Since I have never done a square, I thought, this is the plane for me. Just kidding, I like the looks of it. Not kidding about my flying though. When I came back to the hobby, I found that I could build way beyond my ability to fly. I started this Nakke last year, but stopped and got a "Wingmaster" from John Lowry to learn to fly better. I have busted up a few planes that I spent a lot of time building, so I am taking a step back and going with a basic profile for awhile. I am going to do a lot more flying this year, because I'm going to use a stooge instead of waiting to fly with someone, because my buddies live just too far to be able to fly often. This Nakke has a New Millennium wing. I started using this method after talking to Crist and Getting Tom Morris' Tom's building Tips booklet, I highly recommend this book to anyone getting back into the hobby. Lots of very good information. It will make you a better builder guaranteed. I am back working on my Nakke and it should be ready for Spring. A "Sparky" builder I'm not. Thanks to all who have helped me along the way.



Joe's Nakke fuselage framed up.





Here's the wing of the Nakke

Glen Peterson wrote and stated that he hasn't started on his SV-11 but is working on a Sig Cub with a ST 40 with 3 lines. Sounds like fun Glen. Keeps us posted on your progress on both models.

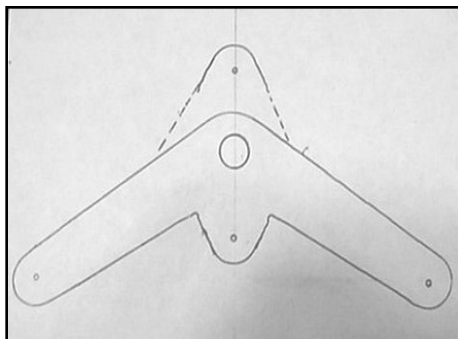
I received an email from Big Art Adamisin. He sent me some info on the "Y" bellcrank. I had never heard of a "Y" bellcrank.

Friends if I may I would like to add my 2 cents in the matter of the Y-Bellcrank. When we made it in 1966 it was made with the assumption that it had a soft center or neutral. If so we thought it would be easier to pull out at the bottom without a glitch or as we called a Hooptee. We discovered that in first flights the airplane did not fly level in the neutral position upright and inverted. When we added an adjustable push rod between the flaps and elevator we were able to trim this condition out. Only when plane is dead level in either direction will any benefit either imaginary or real be realized. It was simple as that then, and we believe it's still that simple. We have used it in every thing built since then. It was not popular because people were not willing to make an adjustable pushrod. A combat flyer from that time suggested that if you turn crank around with the Y facing away from the Lead-outs you would get what he called POWER

STEERING a very light feel. We did 1 and did not like it. We used angles from 20 to 30 degrees we liked 20 the best. The picture shows crank now and upper view of original. We always used 1/16 steel bearing bronze bushed cranks. All cranks were 4 inch.

Respectfully submitted. "Big Art" Adamisin.

Chris Sterner is working on an



Here's the picture he included of the "Y" bellcrank.

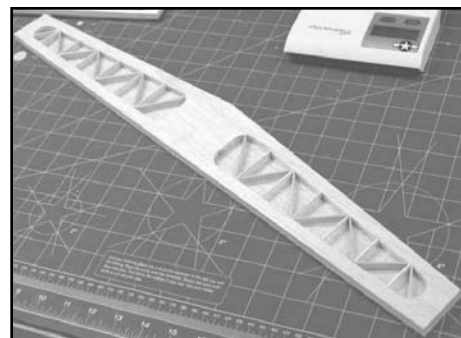
interesting model. He's building a T-38 Talon. It will be a profile using Tom Morris Millennium wing construction and a built up profile fuselage. The stab is built up and sheeted while the elevators are solid sheet. Power will be an OS 40FP. Wingspan is 52" and the fuselage is 42" long. Here are some photos supplied by Chris.



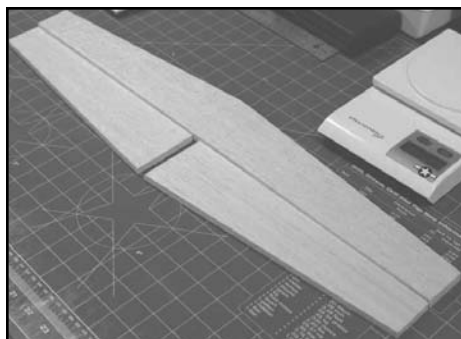
The mille wing goes together.



Here the wing weighs a mere 2 3/4 ounces!



The built up stab.



The sheeted stab and solid elevators.



Chris's mug shot. Would you buy a used car for this guy! Just kidding Chris.



The Minneapolis Piston Poppers had their annual Frozen Fun Fly on January 1st. Jeff Welliver sent in this report along with the photos.

Frozen Fun Fly, 2006 **By Jeff Welliver**

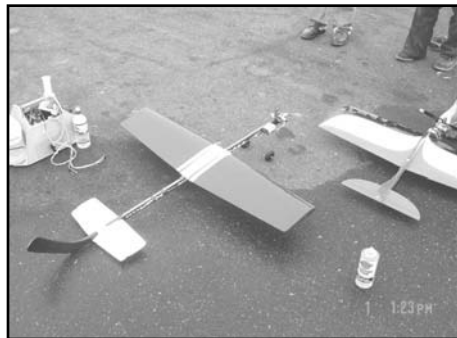
In Minnesota, some things are inevitable, like taxes, winter, and the Minneapolis Piston Poppers Frozen Fun Fly on New Years day. Thanks to the efforts continuing efforts of Bob Cheney, Derek Lange and Jeff Lange, another hardy bunch of frozen flying fanatics found their frozen way out to fly in frosty conditions, for the 15th consecutive year. Actually, this year was mild by our standards at about 30 degrees above zero. There was one year that started out at 20 below zero and warmed up to a nearly tropical 2 below by the end of the day. Those are real temps, folks, not wind chill!

Among this years more interesting planes was Mel Roy's K&B .35 Greenhead powered Half Fast. Mel, by the way, is a 77 year-old retired minister who still can make a combat model do its thing very nicely. Another oddball (plane and pilot) is my Midwest P-63 profile with an OS Goldhead .60 for power. It goes from zero to flying speed it about 2 plane lengths. A word to Crist Rigotti on this one: if you every fly this bird, Crist, have a good anchorman holding on to you!

The unchallenged chief of the "Looney levitators of frozen flying fliers" clearly continues to be Norm Andersen. We all wondered how Norm would top his "flying Snow Shovel" of 2004, or his "flying Candy Cane" of 2005, but he certainly did

it this year with his "flying Hockey Stick" for 2006. Built from an actual hockey stick and Enya powered, this flying fantasy was clearly at home in the winter weather, even flying inverted (intentionally!), although the referee tried to award a penalty shot for icing, or was it off sides. In any case, Norm clearly scored a "goal" with this one.

While there's no competition, everyone who flies gets a prize, ranging from small hand tools to an OS .25 LA-S (won by yours truly). Add that to good food and good company and how can you lose. COME ON UP AND JOIN US NEXT YEAR!



I have to start the pictures off with the Flying Hockey Stick!



Mel Roy's Greenhead powered Half Fast.

John Paris has a lot going on too. Here's his report along with his photos.



This is one hearty bunch. Did you catch that this was the 15th consecutive year for this outing?



Jeff Welliver's OS 60 powered P-63.



Hot chocolate and home made chili. A must have in my book. Look at all that snow!

Crist,

I have been doing a few minor things in the shop in between building spurts on my SV-11. Attached you will find some shots of Blackhawk Model's Cub I trainer and Golden Hawk, a Sterling A-10 and an ARF Smoothie. The Blackhawk models were something that I worked on with the kids a bit as they were

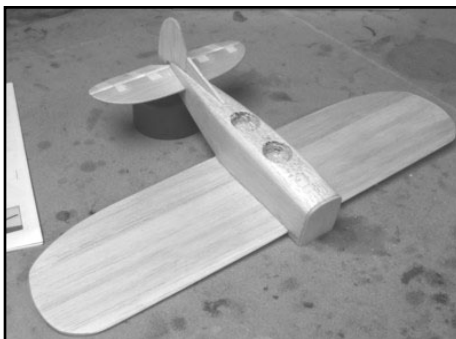


prizes at some of the contests we attended last year. The SV-11 is ready for base coats of paint, but I have not had the desire to really get on it. Now that everything is basically caught up, I should have no excuse. Originally I had planned on building an RSM Ringmaster and make the trek down to VSC, but my company filed for bankruptcy and I am waiting to see how things play out. The Ringmaster will hit the table when the SV is complete. I plan on using a 35 stunt for power but will incorporate a universal mounting system so that I can change if I want. The local boys got together for a New Years Day fly. We had 8 pilots attend and had a great time. I have also kept Frank Carlisle and Jay Williams in the "fly at least once a month" club for the last year or so. Paul Smith has put on contests in the Flint area over the last summer and has scheduled more for this year. The first one should take place 22 Apr 06.

John

Finally, I finished building my new shop. I still have some things to put away and it'll take some time to settle in.

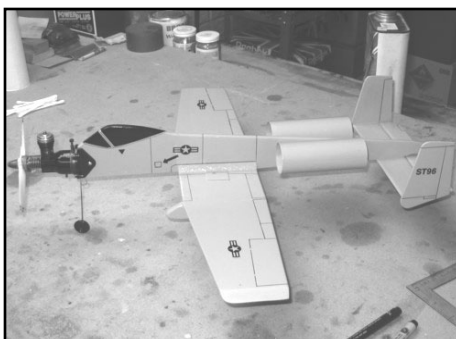
That just about wraps it up for another issue. Just think in a month or so we'll be flying! A word needs to be said about starting to fly after the winter layoff. Be careful and think, especially when around a running engine. Always have a routine and follow it. Even if your buddies try to disrupt it. Till next time, have fun.



The Golden Hawk. Brings back memories doesn't it?



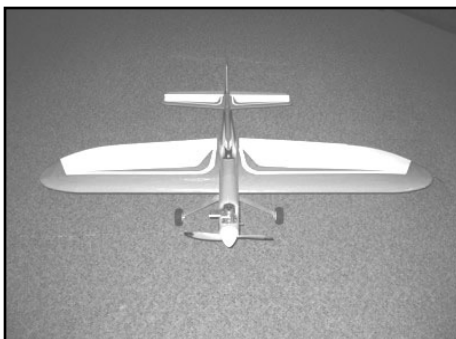
Here's my workbench. Its 3 1/2 x 7 feet long.



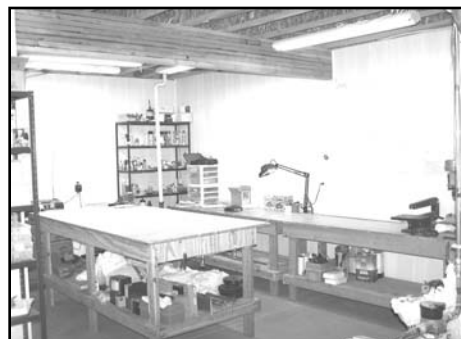
The A-10. Nice ink lines John.



My jigsaw, drill press and sander. The file cabinet comes in handy too.



Here's John's Smoothie ARF.



This is a picture of my work area.

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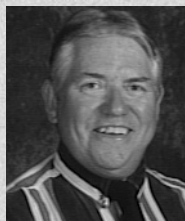
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Well, another holiday season has passed and we can get back to what really counts: BUILDING AND FLYING MODEL AIRPLANES!! WooHoo!!! I've got a new Saturn in one piece awaiting the finishing process, but my garage is full of #@%* from Doug's recent move to a new house. Not really sure how that happened since his new house is actually bigger than mine. Anybody out there want a blue bowling ball and bag, some big plastic storage bins full of some stuff, some old computer keyboards, and assorted other stuff? Come and get it!!

Things have been pretty quiet here in District 8 lately; I suspect many of us are holed up in our garages or building rooms working on this year's dominant masterpiece. I did get some pictures from Elwyn Aud after a recent winter flying session in Tulsa. From what I have heard the weather was pleasant (except for the breezy winds) and the flying was good. Excepting' of course if your name is Joe Gilbert and Brad Walker crashed your Nobler ARE.

District 8 Report by Steve Moon

Oops!



Joe Gilbert's Nobler suffers from a bad case of BradWalkeritis.....



De Hill, Brad Walker and the rest of the Tulsa gang enjoy a cup of coffee in the pits in Tulsa

Brad's crash of a fellow modeler's airplane got me to thinking about how to react when you crash someone else's plane. It's bad enough when you crash one of your own planes, but crashing somebody else's is really tough to handle. I am reminded of a similar experience several years ago at Hobby Park. My buddy John Grigsby was flying my old Moonwalker with an OPS 40 and pipe. John was about halfway through the pattern when he just lost it and planted the Moonwalker. I could tell he was horrified and felt bad about what had happened. Actually, the Moonwalker was an old plane that had served its purpose and was well past its prime. So, I ran all the way across the circle at full speed, launched myself high into the air, and

jumped right onto the inboard wing panel, smashing into even more bits. At this point my son Jake joined in on the fun and we totally destroyed that plane. This seemed like the easiest way to convince John that I wasn't too broken up about the loss. Good fun was had by all, and there were no hard feelings.

Don Hutchinson has completed his latest masterpiece: a profile Douglas SBD-5 Dauntless. As with all of Don's semi-scale ships, it is a beauty and does have a real scale appearance, right down to the proper dihedral in the wings. Don also perforated the flaps, and then covered the holes with clear tape to give the flaps a genuine dive brake appearance. Don's SBD has a 51.5 inch wingspan, 513 sq. in. of wing area, weighs 42 oz. and has an OS 40 FP for power. I am looking forward to seeing this one in the air. Don said he is also redrawing the plans from the originals that he used to build the plane, and they will be available for purchase.

Emile Imberman and Stephen Jeansomme sent me some photos from the recent 'Frigid Digit Jan. I Fun Fly' at Hobby Park in Dallas. About 10+ years ago several people started showing up to Hobby Park



Don Hutchinson's SBD-5 Dauntless



on New Years Day to get in some mid-winter flying, reminiscing, and general story swapping. This morphed into the 'Frigid Digit Fun-Fly' once Tom Niebuhr arrived and really started pushing this as a fun event, no matter what the weather was like. I think Bill Wilson actually flew in the sleet one year. Tom's wife Linda started bringing her famous sausage sandwiches and other



goodies and everyone really looks forward to Jan. 1st at the flying field. This year the digits weren't too frigid, as the temp got up to 83 degrees; but it was rather windy.



Bill Wilson shows off his Johnny Cash-burn MisBehave to Don Hutchinson

2006 DISTRICT 8 CONTEST SCHEDULE:

May 6 & 7: Texarkana, TX. Two days of PAMPA class stunt flying with high score from each day added with high total the winner in each class.

May 27 & 28: Texas State Control Line Championships, Houston, TX.

Saturday: P-40, Sunday: all PAMPA classes, Combat all weekend.

June 17 & 18: Dallas Summer Heat,



Ken Boone poses with his original design Profile-40 ship

Dallas, TX. Saturday: OTS, Classic, Balloon Bust, & Racing, Sunday: all PAMPA classes and Carrier.

July 1 & 2: Firecracker Meet, Tulsa, OK. Saturday: Triathlon: Stunt, Speed, & Balloon Bust. Sunday: Mirror Meet: The Stunt portion of the Mirror Meet held from 1946 - 1961; 30 maneuvers and 3 flights to complete them.

September 2 & 3: Charles Ash Memorial, Dallas, TX. Saturday: OTS, Classic, & Racing. Sunday: all PAMAP classes and Carrier.

September 30 & October 1: Tulsa Gluedobbers Stunt Contest, Tulsa, OK. Saturday: Balloon Bust, OTS, Classic, P-40. Sunday: all PAMPA classes.

October 7 & 8: Stunt Clinic and Contest, Dallas, TX. Saturday: Stunt clinic. Sunday: all PAMPA classes and presentation of District 8 Perpetual Trophy.

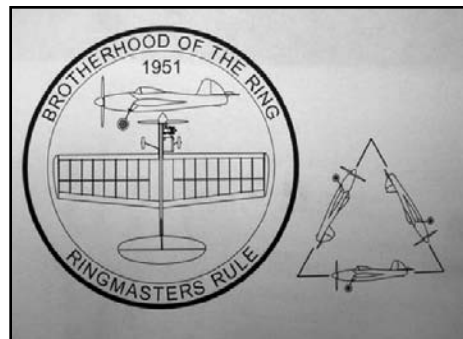
I recently got an e-mail from Dee Rice telling me about a new 'club' he and David Gressens have started: The Brotherhood of the Ring. What is the 'Brotherhood of the Ring' all about you ask? Why, Ringmasters, naturally!! Pat Johnston has developed a set of plans for the Brotherhood called the: Ringmaster

Lite. The RL is designed for .19 - .25 engines and to weigh about 22 - 24 ounces. Dee says these are great flying planes that are also fun to fly. They have even set up a website for the 'Brotherhood', check 'em out at: www.Brotherhoodofthering.info. The website has all the club rules, a chat section, and a photo section.

Alexis Gressens poses with Dee Rice's Ringmasters, one is a kit version weighing 26.5 oz., the other is a Ringmaster Lite weighing 22.75 oz.

Dee Rice and David Gressens' Ringmaster Air Force

Dee also sent along some photos of Jose Vargas' new 'take-apart' Smoothie ARF. Dee and Jose worked diligently to convert a Brodak Smoothie ARF into a take-apart. The wing is removed with 4 hex head screws, and the rudder and stab are



The logo for the 'Brotherhood of the Ring'



Alexis Gressens poses with Dee Rice's Ringmasters, one is a kit version weighing 26.5 oz., the other is a Ringmaster Lite weighing 22.75 oz.



also removable. Dee has written an article detailing the conversion, and will be sending it into Stunt News for future publication. Dee says the conversion wasn't that difficult, so



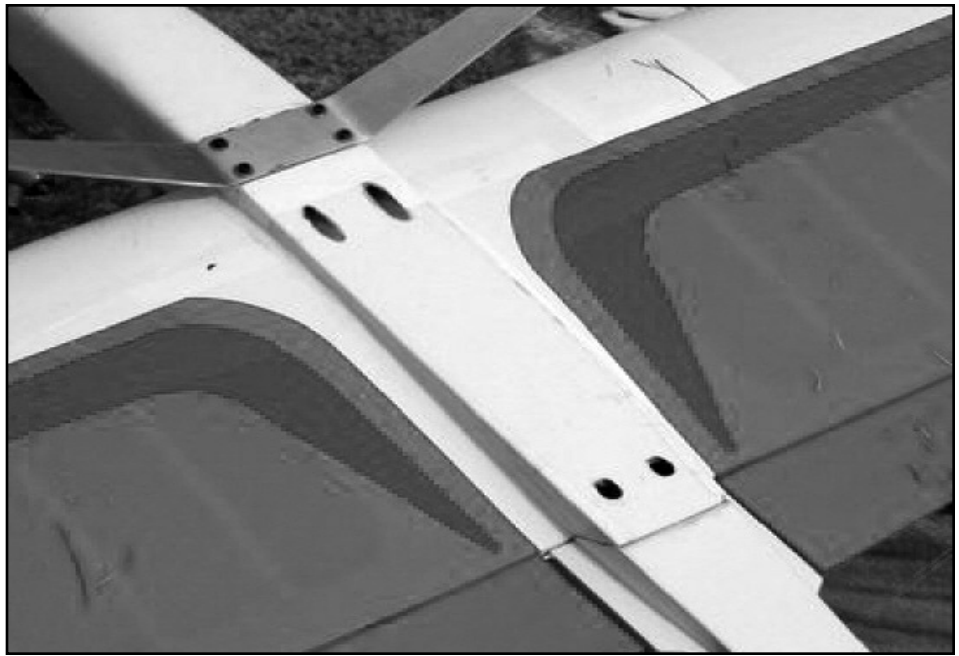
Jose Vargas shows off his take-apart Smoothie

we should all keep an eye out for his upcoming article.

And now, the suspense builds as another exciting edition of 'Tales from the Moon Brothers' is presented. This time I will follow along with my earlier theme: How to react to a crash.

Every year the Dallas Model Aircraft Association puts on the biggest contest of the year for District 8 over Labor Day weekend; the Charles Ash Memorial. In 2003 the weeks leading up to the Charles Ash had been quite windy. By the time contest week rolled around everyone was determined to get some practice in, no matter the weather. On Friday evening I took the Beringer Sportster that I was flying at that time up to Hobby Park for some flights. It was still rather breezy, but I was determined to get a couple of flights in.

I managed to get two flights in, and the plane handled the wind just fine. That is, until the landing of my second flight. I put the plane on the ground safely, but as it rolled back into the wind, the wind picked the



Detail of Jose's Smoothie showing location of 4 hex head screws for wing removal

very light Sportster right up off the ground. There was nothing I could do as the airspeed (groundspeed?) had dropped to almost zero. The plane rose straight up about three feet, and fell straight down about three feet. The sounds of cracking balsa could easily be heard.

I took the plane home and checked it out. The wing mounted landing gear had been popped out, causing a crack in the box spar, and several cracked ribs. I was in no mood to work on the plane and just left it on the workbench. I went to the field Saturday having resigned myself to a spectator's role. Brad Walker was very encouraging, though and convinced me we could fix it in no time. After spending about an hour cutting, gluing, and recovering the Sportster was ready to go.

I took the plane up to the field Saturday evening for a couple of test flights. Brad gave me a launch and my brother Doug stood upwind to see how the plane flew. Then it happened! During the outside loops, the wing folded. The Sportster has a

six inch round fuselage, and we had obviously missed a spar crack inside the fuselage. There was really no way to tell short of completely cutting up the fuse. Anyway, I managed to get the Sportster turned over and headed in the right direction, but there just wasn't any lift with a folded wing. The Sportster went in , in spectacular fashion! The plane exploded into a zillion tiny pieces of balsa wood. The entire firewall, motor mount, motor and cowl went shooting off. It looked like a WWII film of a Corsair or Hellcat crashing on the deck of a carrier, with the entire radial engine and cowl shooting off. The engine and cowl slid right off the circle, coming to a rest near Doug. The field was quite crowded and everyone was mesmerized. I had gotten a lot of good flying out of this plane, so I wasn't too distraught over its loss. Doug waited to see my reaction, and when he could tell that I wasn't too broken up he let out a loud: "That was AWESOME!" We were all soon laughing and staring in amazement at the littered circle. Now, Terry Kirby came to the rescue with a push



broom. Terry began sweeping the remnants off the circle as everyone gathered around. I'll never forget Doug's "That was AWESOME!", because it truly was an awesome sight to behold.

Keep the pictures of your latest creations, local flying events, or any other news and info coming. I look forward to another year of stunt flying and storytelling.



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Dakota, South Dakota, Wyoming





Carl Shoup

Hello district 9, I have asked to replace Mike Pratt as he has moved to Arizona. I have been flying model airplanes of some kind since I was 12 years old. I started flying stunt in 1995. I joined PAMPA in 1996 and have been a member since. I am writing this January 18 so I will be a little short with this report. I have been talking to a few district members, Rusty Brown is doing very well after he had his knee replaced and looking forward to VSC this year and hopes that he does not forget his engine for his Old Time Ignition airplane. I have some photos from the 2005 Rocky Mountain Championships That Ed Ellerbrock took. He has a table that he has painted to look like a hangar, which he modifies to match the contest site. He takes one picture with you and your airplane and one picture with your airplane on his hangar. He does this free of charge, which is a nice addition to any contest.

Since this column is being done under severe time constraints, this will be short and sweet. I promise to do better next issue.

District 9 Report

I hope you enjoy these photos of the Rocky Mountain Control Line Championships. Thanks see you in Tucson.

- CARL SHOUP



This is Jerry Higgins Fancy Pants on Ed Ellerbrock's Panorama table.



Chris Brainard with his Oriental.



Jim Rhoades with his Sultan.





Pete Peterson with his Sultan.



**Keith and Alex McMahan
with Keith's Katera**



Mark Gerber with his Thunderbird that



Keith McMahan with his Nakke.



David Myer with his King Bear.



Keith McMahan with his Humongous.



David Myer with his Tucker Special



Keith McMahan with his Humongous.



**David Myer with
his Zilch**





Pete Peterson with his Jamison Special



David Myer with Gumbo



Matt Curtis with his Cardinal



David Myer and his Flight Streak



Bob Barthel with his Humbug



Norm Whittle and his Sultan



George Wodtke and his All American



Chris Brainard with his Jamison Special



Jerry Chambers with his Stuka



Carl Shoup and his Eagle 780



Chris Brainard



Carl Shoup with his
Belfrey Bound



Chris Jacobsen and his Viking



Mark Smith and his SV-11



Chris Jacobsen and his Pathfinder



Jerry Higgins and his Fancy Pants



John Buschmann and his Flight
Streak



Chris Jacobsen and his Colossus,
Pilots Choice Winner



Jerry Higgins and his Cardinal



Carl Shoup and the
Pathfinder



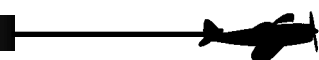
Chris Jacobsen and his Nobler



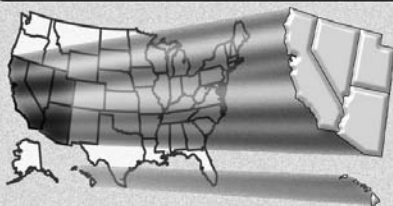
Pilots choice judging at Lori and Lynn Boss's house, where they had a wonderful Spaghetti and meatball dinner for all the contestants of the 29th Annual Rocky Mountain Control Line Championship.



Carol Wodtke, Vicky Myer, Sara Barthel. The Ladies who cooked lunch both days of the Rocky Mountain Control Line Championship



Arizona, California, Hawaii, Nevada,
Utah



David Fitzgerald
2063 Monticello Rd.
Napa, VA 94558-2001
DavidLFitzgerald@sbcglobal.net

This will be a short report. Last I reported we were having great fall weather for flying out west. Well, that statement pretty much put an end to that. Murphy knows all and hears all. Since December we have had nothing but rain, and more rain. I can't remember the last nice weekend so the kids could play outside-even in the mud would be nice. Yes there was quite a bit of flooding up here in Napa. Most of the roads into and out of town were closed, so getting to and from home was a little interesting. My car for work is about the size of a Mini Cooper, but with bigger tires, and less weight. Not a lot of confidence when trying to drive over puddles, flooding and debris. A hint for good driving at night, if the lines on the road disappear when driving, either slow down real fast, or be prepared to do some water skiing with your car. In the end, our house is on the east side of the valley up by the hills. The elevation is quite a bit higher than the river, so the house and

District 10 Report

family were fine.

The weather put a dead stop to my testing on power train setups for the PA 75. I am ready to go with several more experiments, but it may take a while to report results back. Sorry for the delay, but unplugging drains, downspouts, and keeping water out of the basement took priority.

Many of you already know, but it is with a sad heart and deep regret that I have to inform you of the passing of Lucky Pyatt. He had suffered a long illness and the prognosis was not good from the start. His wife, Rickie, and the entire Tucson gang took great care of Lucky. Many of you may know Rickie better from her photographs. I was able to talk to Lucky a few weeks before his passing, and he was still positive and upbeat to the end. I will never forget one of the first Muncie Nats that Lucky attended. We were at the Ramada; Lucky was having a bit of trouble with his new PA engine. There ended up being a lot wrong, including the engine not being broken in. But what I really remember is the look of utter horror on Lucky's face when I took a closet rod and hammer to his fuel tank, to make an adjustment to the front for more clearance on the header. He thought I was joking right up until I hit the tank with the hammer....Bob Whitely assisted. Lucky will be missed by all.

Also by now many have heard that Kent Tysor resigned as a PAMPA director. He will also be missed. So one of the first tasks the EC accomplished was to approve

Paul's appointment of Bill Little as his replacement. Bill should be a fine representative. The second job we had, popped up when Mike Pratt up and moved to Arizona, thus making him ineligible as a director for his district. So, off we go again. We also approved Carl Shoup as Mike's replacement. Both these guys should be great. Thanks for stepping up to the plate, we should hear from them both in this issue of SN.

Moving on, Rich Oliver called several weeks ago with the news that PowerMaster is going to sponsor fuel for the World's in Spain this summer. He took orders for the folks over there to ship fuel. This is a really big deal to get done so early. A Huge thanks to Rich and PowerMaster. They will be sending fuel for all 6 of the F2B team members-it's just that Bob Hunt won't need quite as much as we initially thought.

Paul had requested your input through each director from each district on the issues members think the EC should address for the start of the new term. I sent out about 90 E-mail requests to District 10, and got a pretty good response. Thanks to all those who took the time to let me know your concerns. This should go a long way to getting PAMPA back on track. I've forwarded the list to Paul. Kind of as an aside to this, I really do appreciate the input-but if you chose not to reply, or chose not to renew your membership, then I don't want to hear any whining. To have a voice for change in PAMPA, we need to have input from members. If you are not a member, then I encourage you to





German Winter

make your voice heard by renewing or joining.

I have a distinct lack of input for this report. If you'd like more pictures, just send them along. Hard copy or electronic E-mail is fine. I have a broadband connection so large files are ok. I do have one picture from my friend in Germany, Gunter Wagner. Folks, this is serious winter. I won't be complaining much after this about all the rain in California.

I do have a short note from Doug Barton regarding future events:

Just a heads up that on May 7, 2006 Don Chandler will host a WAM contest. The

year. Jim Aron will have the Meet-N-Meat contest on Sept. 23-24, 2006, and WAM Fund Day will be held April 16, 2006. The Woodland-Davis Aeromodelers Annual Mall show will be held Feb. 11-12, 2006. Setup will be on Friday evening the 10th. We will have space and tables available for working on airplane projects, and the spectators find this very interesting. Easy way to earn points, and catch up on the local B/S. I would sure like to see a good showing from the C/L guys and some free flight or rubber powered also. Please pass the word. Happy New Year to all. Tight lines!

Regards, Doug.



My Aunt Pearl in June of 1948, and Capital Airlines DC-3

Since I don't have any pictures or material, I'm going to include some other aviation pictures I happen to have laying around.

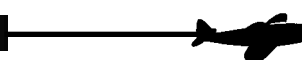
Sincerely, Dave Fitzgerald



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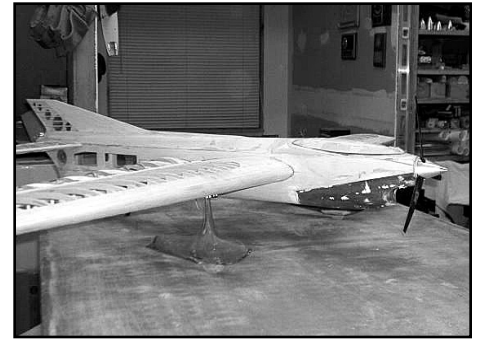
Another contest season approaches with a full slate of events and dates lined up. We even have several fun fly events set up. These are perfect for an excuse to fly together without the pressure of a contest. The Eugene Prop Spinners held their Winter Fun Fly February 19 at the Eugene Airport. Last year we had perfect weather for this event in the middle of January, 60 degrees and sunny with a light

District 11 Report

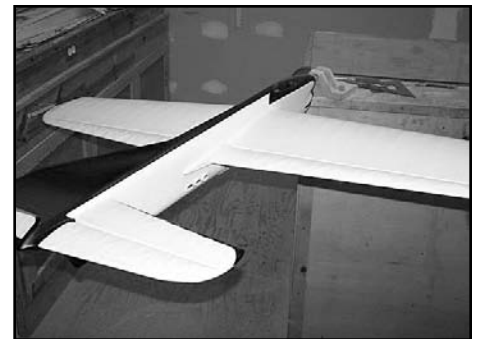
breeze. To find out what you missed this year contact John Thompson. In fact if you are interested in Northwest Control-Line you should be a subscriber to the Northwest's official newsletter, Flying Lines, currently edited by Mike Hazel, zzclspeed@aol.com. There is also an excellent website for Flying Lines maintained by John Thompson that stays up to date with all the contests in the northwest just go to flyinglines.org

Next up will be the Winter Fun Fly sponsored by the Western Oregon control Line Flyers (WOLF) to be held March 18 at the Bill Riegel Model airpark, Salem, Oregon. This would be a perfect time to get some early season flights in and dust off some of those cobwebs from working in the shop. The flying site at the Salem airport has a paved circle dedicated to control-line flying with an adjacent grass flying area. It may be damp but don't let that keep you away.

Then on April 22 and 23 the Northwest Fireballs of Portland, Oregon will once again hold their Spring Meet at Delta Park. Delta



Randy Powell unveiled his latest creation on the Stuka Stunt Forum.



Another view of Randy Powell's latest creation. Got to love those jet lines and interesting scoops.



Randy named this one "The Toad" I assume in anticipation of its flying characteristics

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Park is on the East side of Interstate 5 in North Portland almost at the Columbia river. Nestled among the trees this dedicated control-line site has a paved circle with adjacent grass areas. Contact Scott Riese for more information on this contest. This contest is a good opportunity





Paul Walker prepares to tow his car from a drop off at last year's NW Regional championship. Should be better parking spots at this year's

to warm-up prior to the Northwest Control Line Regionals which happens this year, as in the past, over Memorial Day Weekend, May 26, 27, 28 at the Eugene Airport, a new site for the Regionals this year.

The Northwest Control Line Regionals is the premiere control-line contest in the Northwest and



Greg Hart prepares to start an official flight of his JD Falcon. Bill Veselik

draws contestants from the western United States and Canada. Last year there were 45 contestants in all the PAMPA classes. Throw in Old Time, Classic and P-40 (this year both

Sportsman and Expert P-40) events to go along with Speed, Racing, Combat, Carrier, and Scale and you have three days of something for everyone. At times, there may be seven circles of control-line flying going full tilt.

The next event on the Northwest Contest Circuit is the Northwest Skyraiders Stuntathon, held June 18 and 19 at Thun Field in Payallup,



Scott Riese warms up his Cobra at last year's Country Classic contest at the Evergreen Aviation Museum in McMinnville, OR

Washington. Events to include P-40, Old Time, Classic, Precision Aerobatics, and Carrier. With on site restaurant and good fencing to separate spectators from models it offers a good venue to demonstrate our "sport." It was even made even more interesting as the local parachute club took fights out of this active private airfield on Sunday.

Another fun fly sponsored by WOLF at Bill Riegel Model Airpark in Salem, OR occurs on July 8. Called the "Lucky Hand Fun Fly" this event

features five card draw, one card for each flight, with the best hand winning half the entry fee. Even the beginner pilots have a chance to take home the money.

July 29 and 30, finds the Northwest competitors in Richmond, British Columbia for the Western Canadian Stunt Championships. The Rice Mill Road site will see Old Time, Classic, and PAMPA events. Chris Cox and the Vancouver Gas Model Club put on first class event with great evening social events and Canadian hospitality. Y'all come, aye?

August 5 and 6, are the scheduled dates for the Prairie Fire Stunt Contest in Edmonton, Alberta. Put on each year by Bruce Perry and the Alberta Control Line Flying Club, this event attracts many of the Canadian fliers who find it difficult to make the other NW contests.



Todd Ryan sets his engine for an official flight at McMinnville.

August 12 and 13, will be the second year for this contest at



the Evergreen Aviation Museum site, DeAlton Field-Bibbie, in McMinnville, OR. The Evergreen Aero Modelers club will sponsor the event which will include, P-40, Classic, and Precision Aerobatics. Contact Jerry Eichten, JEichten@aol.com for information.

September 2 and 3, brings us back to Seattle Washington for the Northwest Skyraider's, Stevenson Memorial Contest (formerly the Raider Roundup). This year, as last, the contest is scheduled for Magnuson Park at Sandpoint N.A.S., Seattle, WA. Events include P-40, Old Time, Classic, Precision Aerobatics, Carrier, and Sport Scale.

The last contest of the season is scheduled for October 7 and 8 at

This next sequence of pictures comes with a short story. This



Randy Powell puts in a flight unencumbered by coat buttons.



This is a picture of the flightline at last year's Stuntathon at Thun Field. Spectators line the chain link fence for most of the Sunday action.



Howard Rush takes it easy while he wraps up a his win at McMinnville



Pat Johnston makes another perfect landing and tail high roll out



Bob Smiley with Howard Rush's help starts his Impact at the Nationals. This was Bob's first Nationals.

last fall at Salem my wife, Kristen, was delivering the food for our lunch at the Fall Follies. As she drove across the field around the pit area she caught a glimpse of Bob Smiley standing not twenty feet away turning toward her in piloting stance. She just knew she had driven into his circle while the plane was in the air. She frantically looked everywhere for the plane but never found it because Bob was doing his version of "air guitar" or visualizing flying the perfect phantom flight. We were all lucky that day that she didn't take a wide detour across the lines in the pit. The following sequence is from a video of Bob flying a whole pattern while the sideline quibitzers made rude remarks about his technique. I figure Bob could use these pictures to help his form.



Leo Mehl retrieves Bill Veselik's model at McMinnville.

Salem, OR Bill Riegel Model Airpark at the Salem airport. Sponsored by the Western Oregon Control Line Flyers, come prepared for a Sunday hamburger, hot-dog grill and another great wrap up to a great flying season. Who knows we may have good weather.





Level flight is a bit high.



The overhead eight is a touch too big.



Overhead is just a little past vertical



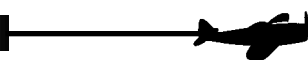
That cover entry looks a little high



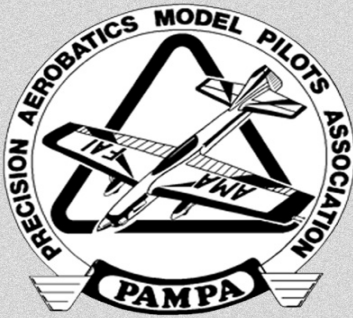
45 degrees looks about right



Rich Wallbridge poses with his version of the Imitation with the designer, Ted Fancher.



PAMPA NEWS



Trustee meeting notes

December 2005

The December meeting of the Trustees began on Monday December 5, 2005 at 8:58 PM ET and ended on Friday December 9, 2005 at 4:27 PM ET.

The meeting began with the following 3 Bylaw proposals on the agenda:

(First Bylaw proposal)

Article VI - Meetings of the organization shall be as follows:

A - General Membership Meetings, of which the Annual Meeting shall be one. General Membership Meetings are held in assembly with all attendees in one physical location, and shall be open to all PAMPA members in good standing. Additional General Membership meetings may be held as determined by a majority of the Trustees. All General Membership Meetings shall have notice published in the newsletter no less than 30 days before such meeting, and additional venues may be utilized for this

notification purpose. Any business brought before the meeting for consideration may be discussed, but not acted upon. Such items shall be carried forth for consideration and/or determination at the next meeting of the Trustees, who may decide the matter, or act on it in accordance with Article VII - Official Business. No quorum shall be required.

I - An Annual General Membership Meeting of the corporation shall be held during the annual National Model Airplane Championships, or in the absence of same, such event at which the national champion of CLPA is determined.

B - Trustee Meetings. The Trustees shall establish a regular meeting schedule of not less than one meeting per month, and this regular monthly meeting schedule shall be published in each issue of Stunt News. The meetings will be held via e-mail unless otherwise decided by the Trustees. The President, or a majority of the Trustees may, re-schedule meetings, schedule additional, special, or emergency meetings, change the venue, days, starting times, and otherwise allow for holidays or other situations. All Trustee meetings may adjourn at anytime, any day after the start of the meeting, but no later than 120 hours (5 days) from the start of the meeting. No quorum shall be required.

C - Committee Meetings. It is the responsibility of the committee Chairperson to advise it's members of all meetings.

D - As a matter of record, official business decided via the

various meetings shall be published in the newsletter at the earliest convenience. No prohibition is made on dispensing identical information through other venues. (end of proposal)

Assigned identifier: 2005Nov20-bylaw06-KTysor-pro-001

Submitted by: Kent Tysor, District 4 Director

(Second Bylaw proposal)

ARTICLE VIII - Duties of the Trustees

The Trustees are responsible for establishing policy and objectives and for making all business decisions for the corporation except as provided in Article VII- Official Business.

The Trustees as a whole shall serve as a rules committee, the chairman to be appointed by the President. The Trustees may also constitute the Precision Aerobatics advisory Committee serving at the request of the AMA Control Line Board.

The President shall preside at all meetings and shall execute the policies established by the Trustees. He shall appoint committee members and chairmen as he/she deems appropriate. Furthermore, upon assuming office he shall recertify the membership of all committees and may appoint new members as he/she sees fit.

The Vice President shall perform the duties of the President in his/her absence. The Vice President shall assist the President in executing the policies established by the Trustees.



The secretary/Treasurer shall keep a correct and accurate record of the proceedings of all meetings of the Trustees as well as of the membership. Copies of all such minutes shall be available to any member at reasonable times and photocopy expenses may be charged therefore. The Secretary/Treasurer shall keep an updated membership roll. The same shall be provided to the editor of the Stunt News. The Secretary/Treasurer shall receive, disburse and account for all funds of the corporation and be responsible for all tax filings, and may hire accountants to assist in this work with the advice of the President. A financial statement shall be published annually and a statement of receipts and disbursements shall be published at least twice annually in the newsletter. A detailed copy of the annual accounting shall be made available to any member upon request and photocopy expenses may be charged therefore.

The membership Secretary shall be responsible to foster increases in membership in PAMPA.

The District Directors shall be responsible to provide counsel to the President. They shall advise as to the opinions of constituent members and carry out such responsibilities as may be assigned to them by the President.(end of proposal)

Assigned identifier: 2005Nov20-bylaw08-KThompson-pro-001

Submitted by: Ken Thompson, member in good standing

(Third Bylaw proposal)

ARTICLE XII - Amendments to
MAR/APR 2006

Bylaws:

Any active member or any Trustee may submit a proposed bylaw amendment to the trustees at any time. Upon such submission, the Trustees shall determine if the proposed amendment should be presented to the membership, and if so, the exact wording thereof and the time of presentation. All proposed amendments and action taken thereon shall be reported to the membership in the next issue of the newsletter following the receipt of the proposal. Presentation of a proposed amendment to the membership shall be made in the newsletter and adoption thereof shall occur only on a favorable vote by a two thirds majority of those members responding. In addition, any member or members who have submitted a proposed amendment to the bylaws shall be informed in a timely manner of any actions taking place concerning his/her submission(s).(end of proposal)

Assigned identifier: 2005Nov20-bylaw12-KThompson-pro-001

Submitted by: Ken Thompson, member in good standing

The following motion was also placed on the agenda prior to the meeting:

Move that all three proposals be "Postponed to a Certain Time". That certain time for reconsideration to be "at the time of examination of the pertinent Articles in the context of a comprehensive evaluation of the entire PAMPA Bylaws document" by the Executive Council. That certain time to be no later than the end of the coming calendar year, 2006.(end of motion)

Assigned identifier:

December04-106 postpone TF-VP
Submitted by: Ted Fancher,Vice President

David Fitzgerald offered a second to the motion above.

Before voting on the above motion, the following amendment to the above motion was offered:

I move to amend the motion "2005December04-106 postpone TF-VP" by inserting the words "by January 31, 2006" after the word "than" in the third sentence, so the third sentence reads: "That certain time to be no later than January 31, 2006"(end of motion to amend)

Assigned identifier: December06-106A amend postpone TF-VP

Submitted by: Bob Dixon, District 5 Director

Windy Urtnowski offered a second to the motion above.

Friday, the last day allowed for the meeting, showed the above 5 items of business before the Trustees, and the President made the following statements at 8:07 AM ET:

Please note we have a great deal of business before us at this time, 3 Bylaw proposals presently under discussion, I motion to "postpone to a certain time", and I motion to amend the motion to "postpone to a certain time". Since we are required to adjourn by 10:00 PM ET today, Friday December 9, 2005, there is not enough time remaining to allow sufficient time for voting on any business before us.

We also have the Holiday season coming up on us rather quickly,

which I believe most of us would rather enjoy without PAMPA business lurking a phone call or e-mail away. Additionally, I believe some good discussion is in order on the matters before the Trustees prior to any voting.

Therefore, receiving no objection before 4:00 PM ET today, Friday December 9, 2005, all pending business before the PAMPA Trustees will be carried forward to the next scheduled meeting, which is scheduled to begin on Monday January 2, 2006 at 9:00 PM ET, and this meeting of the Trustees will be adjourned at 4:00 PM ET today.

At 4:27 PM ET, the meeting was adjourned with the following statement by the President:

No objection was received to carrying all pending business over to the January, 2006 Trustee meeting.

No objection was received to adjourning this meeting at 4:00 PM ET today.

This meeting of the Trustees started with notice at 8:58 PM ET on Monday December 5, 2005 is now adjourned; the time is 4:27 PM ET Friday December 9, 2005.

Please continue to discuss the Bylaw proposals submitted by Kent and Ken.

All pending business before the Trustees is carried over to the next scheduled meeting of the Trustees. The next scheduled meeting of the Trustees is at 9:00 PM ET Monday January 2, 2006.

John G. Brodak
PAMPA President

January 2006

The EC has voted on the new Editor - 11-Jan-2006

This week, the EC voted on Tom McClain as the new SN editor. The vote was: 12 for 0 against, 2 abstain (Steve Moon and Jim Renkar), and 1 resignation (Kent Tysor). The EC was also presented with two printing options (A & B) at two vastly different costs. The EC choose the less costly of the two. The less costly of the two also seemed to show the better quality as well. The next order of business is approving a replacement for Kent. The confirmation process in work now.

District 4 Director - 13-Jan-2006

Kent Tysor has resigned as District 4 Director. Health issues are keeping him from doing this job.

Bill Little was nominated for that open position. By a vote of 14 - 0, the EC confirmed Bill Little as Kent's replacement for the remainder of the term. District 4 members, please support Bill in his efforts to represent your district.

District 9 Director - 17-Jan-2006

Mike Pratt has resigned as District 9 director. Carl Shoup was nominated as his replacement, and was confirmed by the EC by a vote of 15 "For" and 0 "Against".

Paul Walker
PAMPA President



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Vintage Stunt Championships XVIII

March 15 – 18, 2006

VSC-XVIII will be held at Christopher Columbus Park on Silverbell Rd., Tucson, Arizona between Grant and El Camino Del Cerro (See map to left and Registration form below).

VSC Headquarters Hotel is the Rodeway Inn (520-622-7791) at Grant & I-10. Mention Vintage Stunt when making your reservation. Do not call the 1-800 national reservation phone number. They won't know what you are talking about.

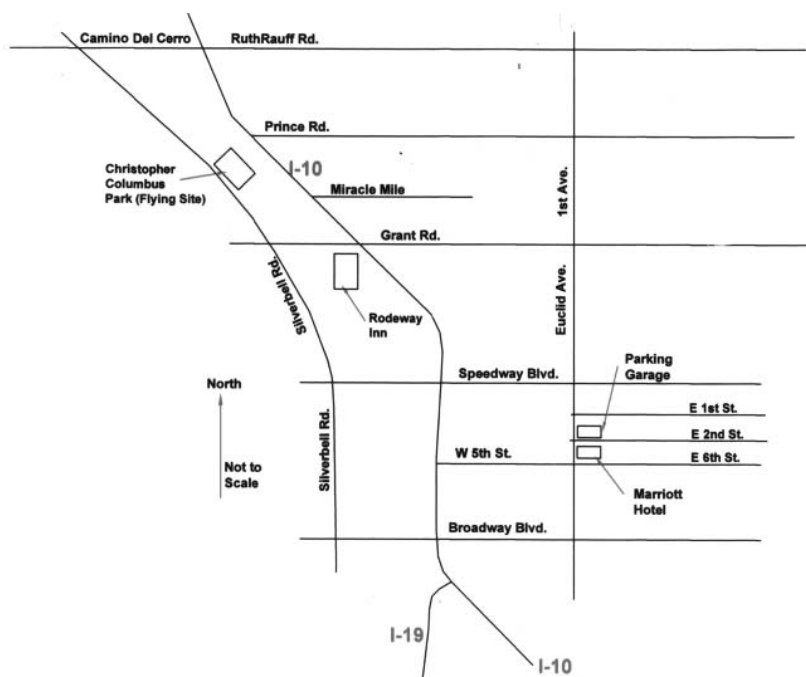
Old Time Stunt (OTS) will be held Wednesday & Thursday, March 15 & 16, one round per day. Pilots meeting promptly at 7:30AM both days.

Classic Stunt will be held Friday & Saturday March 17 & 18; One round per day. Pilots meeting promptly at 7:30AM both days.

Classic Stunt Appearance Judging will be held Thursday (March 16th) starting promptly at 4:30PM at the Rodeway Inn (See map).

Ignition will be held Wednesday and Thursday, March 15 & 16. Pilots meeting promptly at 8:00AM.

VSC Banquet will be held on Saturday night (March 18th, 2006) at the Marriott Hotel close to the University of Arizona (See map). Arrive at 6:00PM; Dinner served at 6:30PM.



Attention: Midnight March 8th, 2006. By this date we need to know if you are attending VSC 18. Jim's mailing address is on the Registration form below. Download of Registration Form available at [www.ccmaonline.org]. Three addresses and phone numbers are provided below along with e:mail addresses. Registration can be done in one of two ways. 1) Send in the registration with payment of fees when there is no doubt that it will arrive well before the deadline. 2) Call or e:mail one of the listed people below, when time is short, and mail the form and fees the same day you call or e:mail. Please note that as the deadline of March 8, 2006 get closer there are fewer options available to you. **If we do not know that you plan to attend VSC 18 by either of these two methods by midnight of March 8, 2006, you will have to wait until the following year and enter VSC 19.** The Banquet sign-up is held open by Jim Hoffman until after the start of VSC (the 15th). If you want to attend the banquet and have not signed-up, check with Jim at the flying site by **10AM, Wednesday March 15th**. Our policy is to return your entry fees if you have registered and can not make it; let us know. Refunds for the banquet are handled by Jim Hoffman **and may not be made after 10AM Wednesday March 15th**.

Entry Fee is \$15 per event – Please include address, AMA number & events entered

Banquet Price is \$32.50 per person. Sit down dinner

CD: Lou Wolgast:
3652 E. Northern Dancer
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PH 520-850-9685

Rodeway Inn
I-10 At Grant Rd.
Tucson, AZ
Ph: 520-622-7791

Assistant CD: Robin Sizemore
12405 E. Arbor Vista Blvd.
Tucson, AZ 85749
PH 520-749-4434
E:Mail: expstunt@cox.net

Jim Hoffman
2658 W. Montgomery Drive
Chandler, AZ 85224
Ph: 480-897-0630
E:Mail: windswept4@cox.net

REGISTRATION AND PAYMENT: VSC-XVIII

Please complete ALL sections, including AMA number (Important!)

NAME: _____ AMA # _____

STREET: _____ CITY & STATE: _____

EVENTS ENTERED:

OTS @ \$15.00 _____ (Wed 15th – Thur 16th)

IGN @ \$15.00 _____ (Wed 15th – Thur 16th)

CLS @ \$15.00 _____ (Fri 17th – Sat 18th)

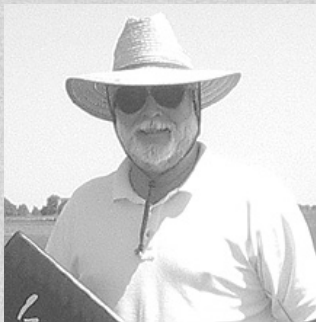
BANQUET _____ @ \$32.50 _____ (Sat Evening the 18th)

Entry Must be Received Not Later Than Wednesday March 8, 2006

Make Checks Payable to JIM HOFFMAN

Mail to: 2658 W. Montgomery Drive, Chandler, AZ 85224

(Cholla Chopper Web Site: <http://www.ccmaonline.org>)



Curt Nixon
8836 Utah
Livonia, MI 48150

Captcurt @ flash.net

Greetings to all once again this month. And welcome to the "New" Stunt News! At the risk of being redundant, I would like to thank Tom Morris for the outstanding job he has done with this publication-it was indeed at least partly responsible for my renewed interest in CL Stunt several years ago. Well done Sir!

Certain Vices...

First up this month is a little bit on a tool I use so often that I take it for granted-my general purpose vise. Now, vises are a dime a dozen, and come in a plethora of styles, sizes, and quality ranges (read Cost). I have large, wood-jaw woodworkers vises with bench dogs, a couple of different sizes of tool-makers vises, vises for my drill press, vises for the mill, and plumbers vises for all kinds of dirty jobs. I even have vices for...well, no, we won't go there. By far the one vise I select more often than any of the others for work with models is a general purpose version from PanaVise.

PAMPA PRODUCTS



The PanaVise Standard Model 300/303 on right and the Wide Jaw Model 366 on the left adjust to any angle.

The Panavise product originated in 1956 and has become a staple in many precision workshops. In particular, they can be found in nearly all electronic shops because of there versatile combination of mountings and vise styles. The Standard model-consisting of a 303 head with nylon jaws and a 300 standard ball swivel base, is the one I use the most. The unique thing about these vises is their ability to swivel the jaws to a variety of angles and rotational positions and lock them there securely for work. I use this one for soldering, holding engines for assembly, holding pieces for shaping, wrapping lines and all sorts of other tasks-kind of like having a third hand. I have mine mounted on a wooden ply base about 8" x 16" to provide portability and a stable platform.

Another nice feature is that there are several different heads or jaw assemblies that interchange on the same basic ball-lock base. The second of these in my shop is one of the wide jaw types. These were originally designed for holding circuit boards so will open to about 8" or so and have a hand crank screw to

control the jaws. With the swivel base, the jaws can be positioned to operate vertically as well as at odd angles. There is also what PanaVise calls a fixturing head-it mounts on the regular base and looks like a round drill press table with radial slots.

There are a variety of optional jaw materials like brass, Teflon, rubber, and aluminum. A complete system of bases is also a part of the family of models and can be set up for being clamped to the bench, screwed down, or placed on a weighted portable base platform.

Considering the versatility and the Lifetime Warranty, the cost for these vises is quite reasonable-about \$40 dollars for the Standard Version. The wide jaw, circuit board head lists for about \$30 and most of the jaw sets are \$3-5 dollars.

PanaVise has a very nice website showing the different configurations and options and you can call them for a complete brochure. PanaVise is sold through Tower and Hobby Shack as well as most all professional electronic supply companies.

Windancer Models' ARGUS
Design by Steve Wooley

Seeing as how I reside and fly in the heart of I-Beam land, I guess it is appropriate that I spend time this month and next looking at the laser-cut Argus kit from Windancer Models. This is one pretty airplane! In the August 1961 AeroModeller review, the title was "The Hungarians called this THE MOST BEAUTIFUL PLANE IN THE WORLD" referring



to the reception Steve Wooley got with one of the 38 oz originals at the 1960 World Championships in Budapest. This 50" wingspan design is very similar to the Ares by Bill Werwage-and it is no surprise as Bill and Steve were regular competitors from the same general region of Ohio. The I-beam structure is also very much in line with the original approach as implemented by a variety of the original Strathmoor Club models. I am fortunate to be able to call upon several builders in this area that have direct connections to those original designs. As I get a little further into the construction, I'll share comments and reactions from some of these folks as well as my thoughts on the project.

The complete Argus kit laid out for

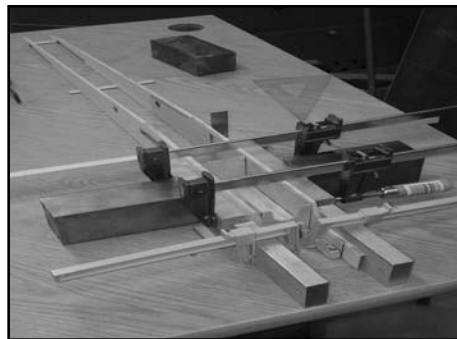


inspection-all wood was excellent and the laser cutting resulted in easily joined assemblies.

This reproduction kit has been made available by Windancer Models. Bill Sawyer has taken great care in providing a complete package of premium hardware and laser-cut balsa and plywood parts. Bill has even included leather fillet material and complete instructions for using them, as well as arrowshaft material for the pushrods, bellcrank, leadouts, adjustable guide, weight box, bushed horns, etc. About the only hardware item not in the bag was a bicycle spoke and nipple for cowl attachment-even though it

was shown on the drawing. Upon arrival, I checked out all of the hardware and wood materials. They are shipped in a well packed box and arrived in the mail without problems. There was no bad wood at all-in fact, like I do for every kit, I went through the majority of the parts and weighed the wood-to see what I needed to replace. The aft top block was 4.5Lb stock. Likewise, the nose block was 4.7 Lb. The bottom blocks were slightly heavier but still very nice. The only part I replaced was one of the Stab halves that I broke while gluing.

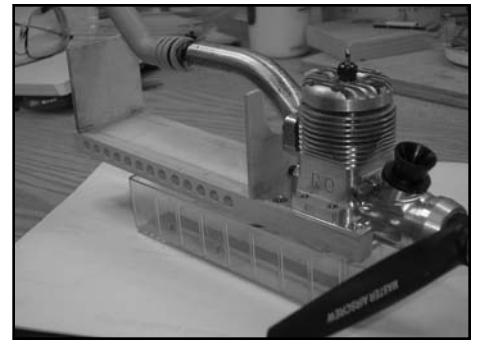
Here the fuselage sides are being



joined with the crutch assembly using a false spar as a jig to ensure a square assembly.

The laser cutting is excellent as well. Critical part fits, where the cutting is crucial, went together perfectly. I quickly had the spar and fuselage sub-assemblies ready for integration. Bill has provided a two-page basic outline for construction that works fine. I chose to deviate a little in a couple of areas though. I like to get the fuselage blocks tacked on and roughed to shape prior to putting the wing in. This just seems to be a lot easier than trying to carve with the wing in.

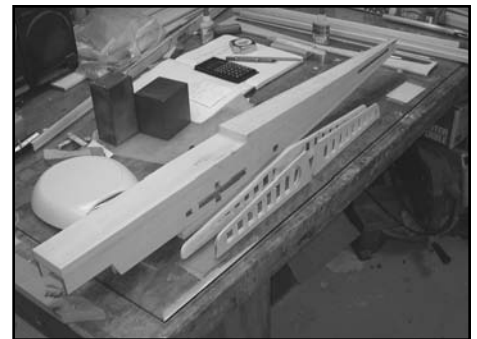
Engine crutch assembly with the ROJett BSE 40 RE resting in place. Rear exhaust required only minor



adjustment of the crutch and tank bulkhead and no shaft extension is required.

All blocks tacked in position with Ambroid for rough carving. After shaping, acetone will release the glue. Stab and Ele are nearly done.

So, as you can see from the pictures,



I have the fuse pretty well complete with the cowl, engine pre-mounting, nose shaping, and top and bottom blocks 90% done prior to setting up the I-Beam. Now the blocks are removed and will be hollowed and re-attached after the wing is done in the normal fashion.

First step in carving blocks is to



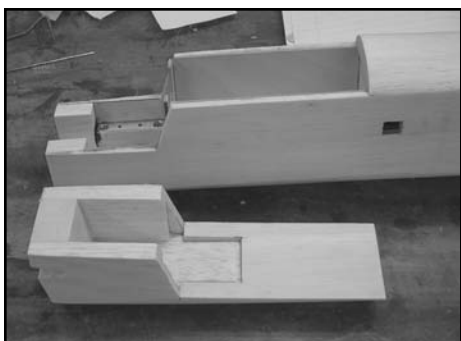
plane appropriate flats according

to templates. Guide lines ensure correct roughing and nearly all work is done with a razor plane.

The full-size CAD plan is also pretty well done as well although I have noticed a couple of minor "red marks" that only a drafting detailer would probably notice. There were places where hidden lines ended and were only confusing if you didn't have laser cut parts that keyed together. As a note, I have not found one CAD plan without some of these kinds of errors-and I've seen a lot of plans the last couple of years!

For the Rear Exhaust set up, cowl bottom was extended aft to allow access to header.

Take Note...

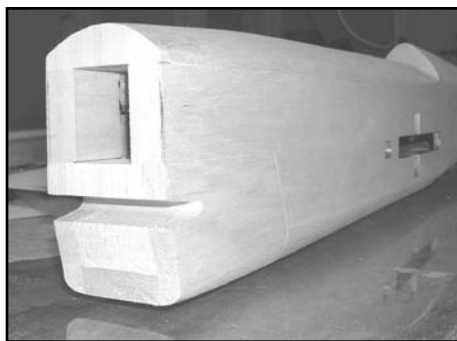


A couple of notes to take note of: The assembly notes make a point of making certain you have the flap horn in place before gluing the fuse sides into the crutch assembly. Do this or you will have to cut the fuse to install the horn. Also, since the stab and elevator frames are cut from two halves (upper and lower), you glue them up in pre-assembly. Having a glue line right down the center makes cutting hinge slots difficult. Plan to leave a space unglued for the hinges or cut the slots prior to gluing the halves. Finally, the easiest way to ensure the fuse sides are aligned fore and aft when gluing

to the crutch is to use the spar or a substitute piece of 1 / 2" square stock in the slots. Square this up to jig the fuse sides into proper position-guarantees a square spar when setting up for the wing build.

I have set the engine compartment up for my ROJett barstock .40 RE. This has a header muffler so will have the lower cowl shell made to suit. This engine weighs 9.62 Oz including the header and rubber extension. It fits into the rather small nose of the Argus and does not require the normal shaft extension used with the original Fox .35. I have been very pleased with this engine in my SV-40 and I know it will do nicely in this plane as well. I may have to adjust the gear to get a bit more clearance up front-Steve Wooley reportedly flew this plane with a 9" prop and used 25% Nitro in the Fox.

Basic cowl shaping is nearly complete.



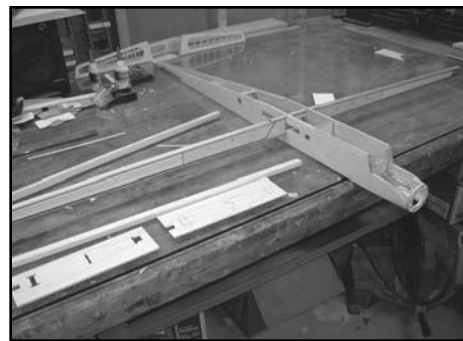
I'm just ready to start assembling the wing. Final set-up of the spar, LE, and TE will be done and I'll be laying in ribs in the next few days. The plane should be nearly finished by next time when I'll go over the final process and share some thoughts from some veteran Strathmoor guys.

If you're looking for an easy way to

do your first I-Beam plane, or want to fly a Classic ship that you don't see very often, give Bill Sawyer a call at Wind Dancer Models. He is very willing to talk about this plane and has been very helpful with building suggestions and background on the plane. If you want to learn more about I-beams in general, Fred Cairns has done a couple of nice reviews of the I-Beam types in Stunt News. (See Nov-Dec 1998) Also, the Bill Werwage video on building the Ares I-Beam wing by Robin's View Productions (Bob Hunt) is an indispensable help when learning this method.

Beginning set-up of the fuse and the I-Beam. Here's where the best part of I-Beam construction starts! Note that at this point, all of the blocks have been shaped and removed.

We should be flying by next issue



so keep spring in mind during those long hours in the shop. Spring is just around the corner. See you on the field. As always, if there are things you'd like to see me review, or something you want to write up and send in, give me a call, an email, or drop a line in the mail. See ya on the circle.

Curt

Sources



PanaVise Products, Inc.
7540 Colbert Drive
Reno, NV 89511-1225

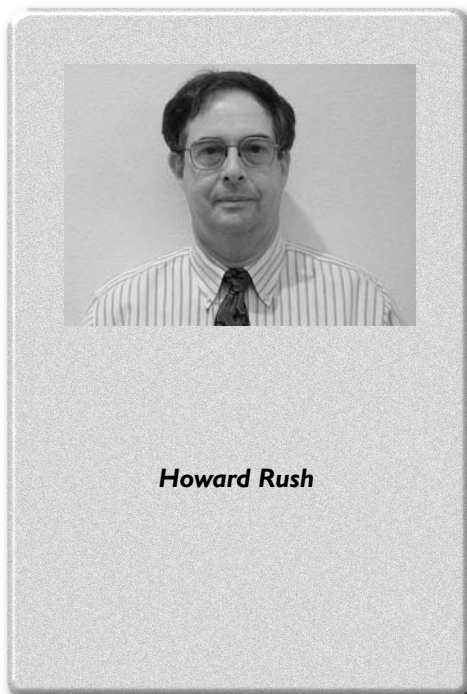
800-759-7535
www.panavise.com

Argus Kit
Windancer Models
Bill Sawyer
165 Antioch Rd.
New Bern, NC 28560

252-638-2632
Starbond @ earthlink.net

I-Beam Video
Robin's View Productions
PO Box 368
Stockertown, PA 18083

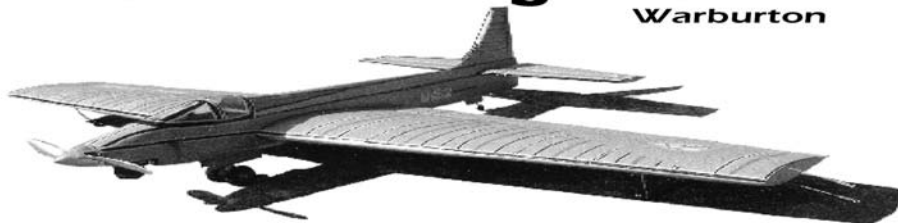
610-759-8813



Howard Rush

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

EXEMPLARY STUNT PLANES
World Class Designs by World Class Flyers
Classic Legal U-2
Warburton



British designer Frank Warburton made this classic legal stunt plane in 1961. A strikingly different design of the era, it has a 54" wingspan and may be powered by a .35-.46.

Now offered, this kit includes all jigged and keyed laser cut parts, sticks, sheeting, blocks for the nose, molded leading edges, top and bottom decks and Cad Plans.

2632 Edgewood Lane • (What's left of) Lake Charles, La 70605
337-477-7948 • jhand@mail.mcneese.edu
Call Steve Hand for more information!

CONTEST CALENDAR

before going to a contest. Submit new listings to Howard Rush, hmrush@comcast.net, or Jim Snelson, jandjhobbies@msn.com. See <http://www.controllinecentral.com/Calendar.asp> for links to contests outside North America. Submit contest ads to Floyd Layton, roadworrier@mchsi.com.

2006 Contests:

March 10
G.S.C.B. Stunt Judging Clinic,
7:00 pm at the NJ Aviation Hall
of Fame and Museum, 400 Fred
Wehran Drive, Teterboro Airport,
Teterboro, NJ
ED: Rich Peabody, (201) 669-2605

March 15-18
Cholla Choppers' Vintage Stunt
Championships XVIII, Christopher
Columbus Park, 4600 N. Silverbell
Rd, Tucson, AZ

Wednesday: Old Time, Ignition*
round 1

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

Friday: Classic* round 1

Saturday: Classic* round 2

Mandatory contest pre-entry.
Entry must be submitted by March
2, 2006.

CD: Lou Wolgast 11310 E.
Concho Circle Tucson AZ 85749,
(520) 749-1812

Sidekick: Robin Sizemore,
Expstunt@aol.com.

April 1-2
Knights of the Round Circle
Bob Palmer Classic #8, Whittier
Narrows Park, South El Monte CA
Saturday: Old Time, Classic,
Precision Aerobatics (Beginner,



Intermediate)

Sunday: Leprechaun* (1cc), Precision Aerobatics (Advanced, Expert), Profile 40* (Novice, Expert)

CD: Warren Walker, 10651 Ridge Canyon Rd, Alta Loma, CA 91737-2491, (909) 476-0442, (909) 989-2313, wrwcs@earthlink.net, wrwcs@aol.com
www.kotrc.org

April 16

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

Old Time, Classic, 1/2A*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

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

April 22

Royal Oak Cloudbusters' Second Annual CL Fun Fly and Stunt Contest, Stanley Broome Park, Flint, MI

Old Time, Classic, P-40*, 1/2A Demo*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

Contact: Paul Smith, (586) 939-1076, crickballs01@aol.com

April 22-23

Jim Walker Memorial Spring Tune Up, Delta Park, exit 307 north, 306 south off I-5), Portland, OR

Saturday: Old Time, Classic

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

CD: Leo Mehl, (503) 255-6471, leomehl@aol.com

Contact: Scott Riese, (503) 246-4631, SRiese5283@aol.com

May 6-7

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: Mike Anderson, 402 2nd Ave., Madrid, IA 50156, (515) 794-4038, mikeainia@earthlink.net

May 6-7

Texarkana Four-Round Precision Aerobatics Contest, S on Summerhill Rd from I-30, then E on Mall Dr to the end of the road, Texarkana, TX

Saturday: Precision Aerobatics* rounds 1 and 2 (Beginner, Intermediate, Advanced, Expert)

Sunday: Precision Aerobatics* rounds 3 and 4 (Beginner, Intermediate, Advanced, Expert)

CD: John Gunn, 4501 Summerhill Rd Apt 277, Texarkana, TX 75503-4422, (903) 794-4848, ReCONSR@aol.com

Contact: John Ashford, 830 19th St SE, Paris, TX 75460-7515 (903) 739-2558, jcashford@cox.net

May 7

Valley Circle Burners Stunt Clinic and Contest, Sepulveda Basin, Van Nuys, CA

P-40*

CD: Lee Strickland, 7650 Kraft Ave, N Hollywood, CA 91605-2915, (818) 764-2217, leestr@pacbell.net; Sidekick: Ron Duly, 1806 Karen St, Burbank CA 91504, (818) 843-1748, rduly@earthlink.net

May 7

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

Precision Aerobatics (Beginner, Intermediate, Advanced, Expert), Old Time

CD: Don Chandler, 21668 Probert Ave, Red Bluff, CA 96080-9780, (530) 528-9150, donchandler@jps.net

May 19-21

Cobb County Skyrebels' Atlanta Stunt Meet 2006, Lockheed Martin parking lot, exit 261 from I-75, Marietta, GA

Saturday: Profile Stunt*, Old Time, Nostalgia Stunt*

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

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

May 20

Combat, CL Fun Fly, and Stunt Contest, Rouge Park, Detroit, MI

Old Time, Classic, P-40*, 1/2A Demo*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

Contact: Paul Smith, (586) 939-1076, crickballs01@aol.com

May 26-28

Northwest Control-Line Regionals, Eugene, OR airport

Friday: Classic appearance judging, Old Time

Saturday: Advanced and Expert Precision Aerobatics appearance judging, Classic flying, P-40*, Precision Aerobatics (Beginner, Intermediate)

Sunday: Advanced and Expert Precision Aerobatics flying

CD: Craig Bartlett, 205 N.E.



Cedar Lane, Corvallis, OR 97330,
sraigbart@yahoo.com
Alternate contact: John
Thompson, 2456 Quince St.,
Eugene, OR 97405, (541) 689-5553,
JohnT4051@aol.com ,

May 27
Chicagoland Circle Cutters'
Windy City Classic, Ned Brown
Forest Preserve (Busse Woods),
I-290 and Golf Road, Rolling
Meadows, IL

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

CD: Michael A. Schmitt, 3443 I
N. Tangueray Dr., Grayslake, IL
60030, (847) 543-1216,
mschmitt@attg.net

May 27-28
Houston contest, Scobee Field,
Westheimer Pkwy and FM 1464,
Houston, TX

Saturday: Classic (tentative),
P-40*

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

ED: John Hill, 9111 Palm Shores
Ct, Spring, TX 77379-4468, (281)
370-5183, jhill4@houston.rr.com

June 3-4
The Carolina Classic
Saturday: Classic, Profile*, Basic*,
Old Time

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

CD: Bill Francis, (704) 402-5927,
bill_franis@netzero.com

June 3-4
Sir Dale Kirn's Knights' Joust
2006, Whittier Narrows Park,
South El Monte CA

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

Intermediate)
Sunday: Leprechaun* (1cc),
Precision Aerobatics (Advanced,
Expert), P-40* (Novice and Expert)
CD: Michael Fox CD, 12089
Euclid St, Garden Grove CA
92840-3332, (714) 421-1556,
papaface@earthlink.net
www.kotrc.org

June 4
G.S.C.B. Spring Air Show, George
L. Gaydos Field, Two Bridges Rd.,
Lincoln Park, NJ

Profile Stunt* (Beginner,
Intermediate, Advanced, Expert)
CD: Roy Ward, (973) 402-0925

June 10-11
N.E.S.T., Wrentham State School,
Wrentham, MA

Saturday: Classic, Old Time

Sunday: PAMPA

CD: Guerry Byers, 28 Byrd Ave,
Rosindale, MA, 02131-3105, (617)
327-3521, guerrysr@comcast.net

June 11
Wisconsin Stunt and Scale
Contest, Wagner Park, Pewaukee,
WI

Precision Aerobatics (Beginner,
Intermediate, Advanced, Expert)
CD: Peter Mick, W70 N 1010

Hampton Ct, Cedarburg, WI
53012-3208, (262) 377-6137,
pmick82541@aol.com

June 13-17
Brodak Fly-In, Brodak flying field,
Carmichaels, PA

Profile* (Beginner, Intermediate,
Advanced, Expert), Precision
Aerobatics (Beginner, Intermediate,
Advanced, Expert), Classic
(Beginner, Intermediate, Advanced,
Expert), Old Time (Intermediate,
Advanced, Expert), Ladies-only
Basic Flight*

CD: Allen W. Brickhaus, 100 Park

Ave, Carmichaels PA 15320, (724)
966-7335, flyin@brodak.com

June 17-18
Dallas Area Summer Heat, E.
Northwest Highway and Garland
Rd, Dallas
Saturday: Old Time, Classic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced,
Expert)

CD: Terry Kirby, (972) 247-4241,
ED: Dale Gleason, (940) 637-2169,
N42222@nortexinfo.net

June 17-18
Northwest Skyraiders' Jim
Parsons Memorial Stunt-a-Thon,
Pierce County Airport, aka Thun
Field, just off Hwy. 161, So. Hill,
Puyallup, WA

Saturday: Old Time, Classic, P-40*
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced,
Expert)

CD: Steve Helmick, 2104
Aberdeen Pl SE, Renton, WA
98055-4529, (425) 255-1887,
sbasser@yahoo.com
<http://www.nwskyraiders.com/>

June 24-25
24th Annual SIG C/L
Championships, SIG Field,
Montezuma, IA
Saturday: Old Time, SIG Classic*,
P-40*

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 25
G.S.C.B. June Stunt Meet, George
L. Gaydos Field, Two Bridges Rd.,
Lincoln Park, NJ
Old Time*, OTS II*, Classic*



(Beginner, Intermediate, Advanced, Expert), Precision Aerobatics* (Beginner, Intermediate, Advanced, Expert), Fly-off for the Red Reinhardt Cup

CDs: Rich Peabody, 393 Fern St, Township of Washington, NJ 07676-5013, (201) 664-1929, rpeabody@verizon.net ; and Reuben MacBride, 95 John St, Clifton, NJ 07013-1355, tubeman5@aol.com, (201) 669-2605

July 1-2

Tulsa Glue Dobbers' Firecracker Meet, Glue Dobbers' Field, 13376 S. Peoria, Glenpool, OK

Saturday: Stunt, Racing and Balloon Bust Triathlon*

Sunday: The Mirror Meet*: The stunt portion of the 1946-1961 Mirror Meet

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

Tulsa Glue Dobbers' Web site: <http://www.tulsacl.com>

July 9-14

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

Sunday: Precision Aerobatics (Beginner*, Intermediate) (unofficial Nats events), Precision Aerobatics* (Advanced, Open) appearance judging. Advanced and Open entry deadline is noon Sunday.

Monday: Old Time, Classic (unofficial Nats events)

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

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

Thursday: Open Precision Aerobatics* Top 20, Advanced

Precision Aerobatics* finals. Jr. and Sr. entry deadline is noon Thursday.

Friday: Precision Aerobatics (Jr., Sr., Open*) finals, Walker Cup flyoff.

Beginner Precision Aerobatics ED: Allen Brickhaus, abkb801@shawneelink.net

Official-events ED: Warren Tiahrt, tiahrt@mindspring.com

Get registration form from AMA Events Department, 5151 E.

Memorial Dr., Muncie, IN 47302, (765) 287-1256, ext. 204,

lonniee@modelaircraft.org, or <http://www.modelaircraft.org/events/Entry>

July 29

Royal Oak Cloudbusters' CL Fun Fly and Stunt Contest, Stanley Broome Park, Flint, MI

Old Time, Classic, P-40*, 1/2A Demo*, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

Contact: Paul Smith, (586) 939-1076, crickballs01@aol.com

July 29-30

Vancouver Gas Model Club Western Canada Stunt Championships, Rice Mill Road site, Richmond, B.C.

Saturday: Old Time, Classic

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

CD: Chris Cox, ccox1@telus.net

July 29-30

50th Annual Red River Valley Championships, Skylarks Field, Trefoil Park, Fargo, ND

Precision Aerobatics (Beginner, Advanced)

CD: Mike Olson, 305 27th Ave N., Fargo, ND 58102, (701) 232-3647

August 5-6

Prairie Fire Stunt Contest, Namao Field, Edmonton, AB

Saturday: Old Time, Classic

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

CD: Bruce Perry, 419 Klarvatten Lake Wynd, Edmonton, AB, T5Z 3B9 Canada, (780) 472-9000, abperry@telus.net

August 12-13

FCM Championships, AMA, E. Memorial Drive, Muncie, IN

Saturday: Classic, Old Time, Profile Stunt*

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

CD: Allen Goff, jangof@aol.com www.fcmodelers.com

August 13

Roland Baltes contest, Sepulveda Basin, Van Nuys, CA

P-40* (two classes)

CDs: Lee Strickland, 7650 Kraft Ave, N Hollywood, CA 91605-2915, (818) 764-2217, leestr@pacbell.net ; Ron Duly, 1806 Karen St, Burbank CA 91504, (818) 843-1748, rduly@earthlink.net

August 13

Middlesex Modelers' Precision Aerobatics Contest, Middlesex Modelers' Field, Mountain View Park, Middlesex, NJ

OTS, Classic, Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)

CD: Carlos Serra, 509 Elsie Ave, South Plainfield, NJ 07080-2766, (908) 756-6941, carlos.a@comcast.net

August 19-20

Hampton Beach Cook-out and Stunt Contest



CD: Dave Midgley, 2 Elm Dr,
Hampton, NH 03842-1168,
(603) 926-4176, dmidgley@
welchfluorocarbon.com

August 19-20

Western Kentucky/Southern
Illinois Stunt Championships,
McCracken County Model Air
Park, County Park Rd. west of
Stewart Nelson Park, NW side of
Paducah, KY

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

Sunday: Precision Aerobatics
(Intermediate, Advanced, Expert)

CD: Allen W. Brickhaus, PO
Box 206, Golconda, IL 62938,
(618)-683-7611,
abkb801@shawneelink.com

August 27

Rockford Stunt Classic,
Kieselberg Forest Preserve,
Machney Park, IL

Precision Aerobatics (Beginner,
Intermediate, Advanced, Expert)

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

September 1-2

22nd Annual Rocky Mountain
Control Line Championships, Front
Range Airport, Watkins, CO

Old Time, Classic, Profile*, ARF*,
Precision Aerobatics (Beginner,
Intermediate, Advanced, Expert)

CD: Chris Jacobsen, 9961 W 86th
Pl, Arvada, CO 80005-1210, (303)
420-3346, CJRJFLYER@aol.com

September 2-3

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

Saturday: Old Time, Classic

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

Contact: Dale Gleason, 6003
E Lone Oak Rd, Valley View,
TX 76272-9479, (940) 637-2169,
N42222@nortexinfo.net

September 2-3

Northwest Skyraiders' Stevenson
Memorial Contest, Sand Point
NAS/Magnuson Park, Seattle, WA

Saturday: Old Time, Classic, P-40*

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

CD: Steve Helmick, 2104
Aberdeen Pl SE, Renton, WA
98055-4529, (425) 255-1887,
sbasser@yahoo.com

<http://www.nwskyraiders.com/>

September 3

Treetown Modelaires' Midwest
Regional Championships, Aurora
Municipal Airport, Route 30, Sugar
Grove, IL,

Precision Aerobatics (Beginner,
Intermediate, Advanced, Expert),
P-40* or ARF*

CD: Bill Calkins, 317 Snow St.,
Sugar Grove, IL 60554, (630)
466-1531, clflyer@mchsi.com
<http://www.clflyer.com>

September 9

Combat, CL Fun Fly, and Stunt
Contest, Rouge Park, Detroit, MI
Old Time, Classic, P-40*, 1/2A
Demo*, Precision Aerobatics
(Beginner, Intermediate, Advanced,
Expert)

Contact: Paul Smith, (586)
939-1076, crickballs01@aol.com

September 10 (tentative)

XXXI Annual Control Line
Contest, Middlesex Modelers'
Field, Mountain View Park,
Middlesex, NJ

Precision Aerobatics (Beginner,
Intermediate, Advanced, Expert),
Old Time* (GSCB rules)

CD: William Lindemann, 44 High
St, Metuchen, NJ 08840-2339, (732)
494-0993

September 15-17

Memphis Stunt Classic, Millington
Barnstormers' Club, Millington, TN,
approximately 13 miles north of
Memphis on Sykes Road

Friday: practice

Saturday: Nostalgia*, Profile*

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

CD: Louis Rankin, 1262 Mathis
Rd, Atoka, TN 38004-7902, (901)
837-1511, lwr_@msn.com

September 16-17

Bergen County Control Line
Flyers' Stunt Contest, Palisades
Park swimming pool parking lot,
275 Broad Ave, Palisades Park, NJ

Saturday: ARF*, Profile*, Classic*
(Beginner, Intermediate, Advanced/
Expert (with handicap))

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

CD: Rich Giacobone, (201)
947-0336 days,
ceramicprd@aol.com

September 16-17

SAM Champs, AMA National
Flying Site, Muncie, IN

Saturday: Classic, Old Time

Sunday: Classic, Old Time

CD: Randy Ryan, (734) 697-8982,
iflyff@comcast.net

Stunt ED: Allen Goff,
jangof@aol.com

September 16-17

Cholla Choppers' Karl
Marschinke Memorial, Christopher
Columbus Park, 4600 N. Silverbell



Rd, Tucson, AZ
Saturday: Old Time, Classic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Glen Allison, 1484 W. Oak Shadows, Tucson AZ 85737, (520) 575-0359

September 23-24
Lafayette Esquadriile Broken Arrow 19 Stunt and Scale, Buder Park, exit 272 N from I-44, Valley Park, MO
Saturday: Old Time, Classic, P-40*
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Robert Arata, 561 Goldwood Dr, Ballwin MO 63021-6315, (636) 391-0272

September 23-24
Meet 'n' Meat, Mavis Henson Field, County Road 102, 2.5 mi south of I-5 exit 536, Woodland, CA
Saturday: Old Time, Classic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Jim Aron (510) 654-2200 work, (510) 527-5377 home, UncleJimby@aol.com

September 23-24
N.E.S.T. Mitch Lily Memorial Contest, Wrentham State School, Wrentham, MA
Saturday: Old Time, Classic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Dick Wolsey, 112 Haverhill St, N Reading, MA 01864-2551, (978) 664-8670 wolsey@comcast.net

September 30-October 1
Tulsa Glue Dobbers' Stunt

Contest, 13376 South Peoria Ave, Glenpool, Oklahoma
Saturday: Old Time* (GSCB Rules), Classic*, P-40*
Sunday: Precision Aerobatics
(Beginner, Intermediate*, Advanced, Expert)
CD: De Hill, 5811 S. Utica, Tulsa, OK 74105, (918) 743-4912, dfhill@juno.com
Tulsa Glue Dobbers' Web site: <http://www.tulsacl.com>

October 1
New York Stuntmasters' Stunt Contest, Flushing Meadows Corona Park, Queens, New York, NY
ARF*, Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Bob Lampione, (917) 518-0295, rlampione@nyc.rr.com

October 7
Royal Oak Cloudbusters' CL Fun Fly and Stunt Contest, Stanley Broome Park, Flint, MI
Old Time, Classic, P-40*, 1/2A Demo*, Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
Contact: Paul Smith, (586) 939-1076, crickballs01@aol.com

October 7-8
Hi Johnson Memorial, Sepulveda Basin, Van Nuys, CA
Saturday: Old Time, Classic, 1cc*, Beginner Precision Aerobatics
Sunday: Precision Aerobatics
(Intermediate*, Advanced, Expert)
CD: Scott Dinger, 1367 Patricia Ave, Simi Valley, CA 93065-2812, (805) 526-9074, hyflo@dslextreme.com

October 7-8
Contest and Stunt Clinic, E. Northwest Highway and Garland

Rd, Dallas, TX
Saturday: Stunt Clinic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
CD: Phillip Nickles, 6640 Champion Rd, Midlothian, TX 76065-5200, (972) 723-2311, debbienickles@aol.com

October 7-8 (tentative)
Napa Valley Vintage Stunt Regional, Kennedy Park, Napa, CA
Saturday: Old Time
Sunday: Classic
CDs: Jim Aron (510) 654-2200 work, (510) 527-5377 home, UncleJimby@aol.com
Jim Goss (408) 531-9374

October 7-8 (tentative)
Fall Follies, Bill Riegel Field, Salem Airport, Salem, OR
Saturday: P-40*, Classic
Sunday: Precision Aerobatics
(Beginner, Intermediate, Advanced, Expert)
Contact: Mike Hazel, zzclspeed@aol.com

October 8
G.S.C.B. Fall Air Show Part I, George L. Gaydos Field, Two Bridges Rd., Lincoln Park, NJ
Old Time*, OTS II*, Classic*
(Beginner, Intermediate, Advanced, Expert), Precision Aerobatics
(Beginner)
Mike Cooper, CD: (973) 770-0263 or (201) 704-7081 day of event, mcooper@asco.com

October 15
G.S.C.B. Fall Air Show Part II, George L. Gaydos Field, Two Bridges Rd., Lincoln Park, NJ
Precision Aerobatics*
(Intermediate, Advanced, Expert)
CD: Mike Ostella, (973) 364-1105, or (201) 704-7081 day of



October 15

Old Time Contest, Buder Park,
exit 272 N from I-44, Valley Park,
MO

Old Time

CD: John Moll, 7315 Elm Grove
Ct, Hazelwood, MO 63042 (314)
831-4001

October 21-22

27th Annual Golden State Stunt
Championships, Buchanan
Educational Center, North
Minnewawa Avenue, Clovis, CA

Saturday: Old Time, Classic

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

CD Jerry Silver,
jsilverflyer@adelphia.net; Co-CD
Douglas Barton, 160 Park Ave,
Woodland CA 95695, (530)
662-6469,
doug@woodlandaviation.com

November 4

Royal Oak Cloudbusters' CL Fun
Fly and Stunt Contest, Stanley
Broome Park, Flint, MI

Old Time, Classic, P-40*, 1/2A
Demo*, Precision Aerobatics
(Beginner, Intermediate, Advanced,
Expert)

Contact: Paul Smith, (586)
939-1076, crickballs01@aol.com

November 19

G.S.C.B. Stunt Forum, Wayne PAL
Contact: Mike Ostella, (973)
364-1105, or (201) 704-7081 day of
event, mike.ostella@verizon.net

*Nonstandard rules. Contact
CD.



James Mills

2006 King Orange Internationals Results

Saturday, January 14th

Basic:

1st	Gavin Barry	Ringmaster/Fox 35
Passed	Charra Reeves	Flite Streak/Fox 25

Old Time:

1st	Tom Luper	Humongous/DS40
2nd	Larry Draughn	Jamison Special/DS40
3rd	Mike Ostella	Ringmaster/OS25FP
4th	Richard Fleming	Super Clown/Fox 35
5th	Watt Moore	Jamison Special/OS40
6th	Richard Antoszowski	Barnstormer/Fox 40
7th	Dale Barry	Barnstormer/Fox 35
8th	Dennis Toth	Ringmaster/OS 20FS
Passed	Charles Reeves	Yo-Yo/DS40
Passed	Brad Smith	Zilch/Merco 49
Passed	Roy Trantham	Humongous/DS54

Classic:

1st	Larry Draughn	Jamison Special/DS40
2nd	Tom Luper	Humongous/DS40
3rd	Toby Acierno	Thunderbird/Veco 35
4th	Robert Compton	Gladiator/Aero Tiger 36
5th	Mike Ostella	Nobler/Aero Tiger 36
Passed	Ty Marcucci	Magician/DS40
Passed	Tom Dixon	Thunderbird II/DS50
Passed	Roy Trantham	Humongous/DS54
Passed	Mike Wallace	Flite Streak/Fox 35

Profile:

1st	William Davis	Teosawki/OS LA46
2nd	Steve Fitton	P-40/OS LA46
3rd	Roy Trantham	Old Dog/DS54
4th	Watt Moore	Tutor/40
5th	Brad Smith	Cardinal/DS40
6th	Don Sopka	Twister/OS40FP
Passed	Ty Marcucci	Pathfinder II/OS LA40
Passed	Willis Swindell	Brodak P-40/OS46SF
Passed	John Tate	P-40/OS LA46
Passed	Tom Dixon	Cardinal/DS40
Passed	Derek Barry	P-40/OS LA46
Passed	Alan Buck	Cardinal/OS LA46
Passed	Ward VanDuzer	Cavalier/Aero Tiger

Sunday, January 15th

Beginner:

1st	Bobby Wallace	Flite Streak/Fox 35
2nd	Richard Antoszewski	Cardinal/OS LA40
3rd	Richard Fleming	Super Clown/Fox 35
4th	Michael Murray	Teosawki/OS LA46

Intermediate:

1st	Ken Cerny	Legacy/Saito 56
2nd	Toby Acierno	Thunderbird/Veco 35
3rd	Brad Smith	/MVVS49
4th	Chuck Feldman	Cardinal/OS LA46
5th	Ty Marcucci	Imitation/OS LA46
6th	Dave Courtney	Teosawki/OS LA46
7th	Donald Gerber	D.G.A./DS60
8th	Jim Catevenis	Teosawki/OS LA46
9th	Don Sopka	Nobler/Fox 40
10th	Paul LeBlanc	Twister/OS 40FP
11th	Alan Buck	Cardinal/OS LA46

Advanced:

1st	Adrian Dominguez	Sunshine/PA65
2nd	Mike Ostella	Nobler/Aero Tiger 36
3rd	Don Ogren	Evolution 40/OS 40FP
4th	Roy Trantham	Dixie Drifter/DS54
5th	R.W. Swindell	P-40/OS 46 SF
6th	Eric Viglione	Humbag 60/ST56
7th	William Davis	Dancer/Tom Lay ST56
8th	Bob Robertshaw	/ST46
9th	Dennis Toth	Scribe/OS 52FS
10th	Ken Nash	Legacy 40/OS46

11th	Charles Reeves
12th	Jose Turo
13th	John Tate
14th	Lloyd Gregory
15th	Watt Moore

Stiletto/DS54
Albatros/PA61
P-40/OS LA46
Magnum/ST51
Miss Olivia/ST51

Expert:

1st	Randy Smith	Katana/PA51
2nd	Derek Barry	Staris/PA40
3rd	Rob Gruber	Dreadnaught/PA61
4th	Curt Contrata	Satona/PA40
5th	Kent Tysor	Strega/Rojett 76
6th	Gene Martine	Staris/PA61
7th	Steve Fitton	Time Machine/DS60
8th	Owen Richards	Trivial Pursuit/PA61
9th	Larry Draughn	Jamison Special/DS40
10th	Wesley Dick	62 Ares/Aero Tiger 36
11th	Tom Dixon	Thunderbird II/DS50

Fly-off for the KOI Perpetual Trophy:

1st	Curt Contrata
2nd	Randy Smith
3rd	Derek Barry

Pilot's Choice Award:

Gene Martine	Staris
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High Points Award:

(Combined points for all events flown Sat & Sun)

Larry Draughn

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**56th SOUTHWEST REGIONALS CONTROL LINE CHAMPIONSHIPS
JANUARY 28 & 29 2006**

OLD TIME STUNT

Leroy Black	1st	269.0	287.0
Keith Trostle	2nd	286.5	282.0
Jim Hoffman	3rd	284.0	277.5
Bob Whitely	4th	272.0	283.5
Lou Wolgast	5th	269.0	274.0
Pete Peterson	6th	252.5	274.0
Bob Smiley	7th	258.5	266.0
Mike Pratt	8th	258.5	245.0
Robin Sizemore	9th	247.0	256.5
Nick Lemak	10th	233.0	246.5
Glen Allison	11th	219.5	183.5
Lou Crane	12th	214.0	197.5
Bob Emmett	13th	187.0	177.0
Jon Standingbear	14th	40.0	27.0

CLASSIC STUNT

Bob Whitely	1st	547.5	568.0
David Sabon	2nd	561.5	565.0
Keith Trostle	3rd	549.5	550.5
Pete Peterson	4th	98.0	514.5
Grady Widener	5th	506.0	487.0
Bob Smiley	6th	411.0	473.0
Glen Allison	7th	449.5	465.5
Michael Duffy	8th	450.0	436.0
Lew Corbett	9th	390.5	360.0
Lou Crane	10th	367.0	328.5

PAMPA BEGINNER

Steve Holt	1st	216.5	160.0
Jon Standingbear	2nd	73.0	Pass

PAMPA INTERMEDIATE

Michael Duffy	1st	424.5	437.5
Lew Corbett	2nd	367.0	385.0

PAMPA ADVANCED

Pete Peterson	1st	514.0	494.0
Bob Smiley	2nd	793.0	480.5
John Callentine	3rd	493.0	472.5
John Miller	4th	478.0	457.5
Derek Moran	5th	473.5	462.5
Burt Brokaw	6th	472.0	386.0
Glen Allison	7th	465.0	407.5
Bob Emmett	8th	380.5	373.5

PROFILE STUNT

Lou Wolgast	1st	501.0	494.5
Mike Pratt	2nd	466.5	480.0
Derek Moran	3rd	470.0	457.0
Robin Sizemore	4th	429.0	460.0
Burt Brokaw	5th	448.0	456.0

Bob Smiley	6th	454.0	453.5
Glen Allison	7th	447.0	433.0
Lew Corbett	8th	319.5	356.0

JR. PROFILE STUNT

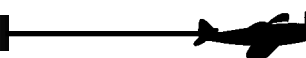
Michael Duffy	1st	391.0	Pass
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PAMPA EXPERT

Bob Whitely	1st	527.0	549.5
David Sabon	2nd	548.0	542.0
Keith Trostle	3rd	536.0	538.0
Lou Wolgast	4th	520.0	535.5
Jim Hoffman	5th	521.0	524.5
Mike Pratt	6th	520.0	524.0
Randy Cuberly	7th	521.0	521.0
Leroy Black	8th	494.5	Pass
Grady Widener	9th	488.0	492.0
Nick Lemak	10th	418.5	476.5
Lou Crane	11th		

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PAMPA RULES



Alice Cotton-Royer
2435 NE 84th Ave.,
Portland, OR 97220
email:

alice@artemisillustration.com

Hi all, Alice Cotton-Royer here. I am the Rules Chairperson for Pampa which means I administer the process for receiving and tallying all new rules proposals for Old Time and Classic Stunt every two years. If you have any comments on Pampa Rules, please send them to me: 2435 NE 84th Ave., Portland, OR 97220 or via email: alice@artemisillustration.com

I was asked recently, in the most respectful of ways I might add, if Pampa had any P-40 contest rules. Indeed we do not. Although at the local levels, some clubs are creating their own rules for such a contest. Nothing has been proposed to me or entered into the Pampa archives.

I am also the writer and administrator of the Stunt News Rules column. In the past Rules articles went straight to Stunt News. I never saw them even though they were put in my column under my name under my photo. Some articles were even said to be written by me and they were not. This will no longer be the case. The articles must come through me and I will put them into Stunt News, I promise. I just need to know what is going on. Another idea would be to send me a copy of your article and a copy to Stunt News. But I still have to see, edit and OK the article. This is part of my job as a column writer.

Whatever the case, I hope all rules are proposed and discussed keeping in mind the spirit of the contest. The idea is to have fun and the rules are simply there to include as many interesting ideas and airplanes as possible in an orderly fair fashion. If

any of you notice that that is not happening write about it and send me your thoughts. But remember, if you have a complaint, please frame it with truth and real facts. Make sure you know what you are talking about and then offer a solution to the problem. I don't want the Rules column to become a posting board for creating negativity, vilifying others, or promoting personal agendas. In general, members have been most respectful and kind when it comes to addressing the Rules Proposal Chairperson.

If you have something positive and fun to say to Pampa members regarding how these rules are working for you, it would make for some wonderful reading. In other words, let's talk. That's what this column is for. Hope all of your lines are remaining tight and true.

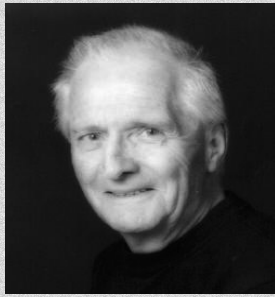
by **ALICE COTTON-ROYER**, Rules Chairperson



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MIKE KEVILLE
4225 N. FIRST AVE, #1321
TUCSON, AZ 85719
(520) 307-1523
vsc-guy@cox.net

Well, how do you like it so far? Hats off to Tom, Robert and our new printer for stepping up to the plate and continuing this publication.

Royal E. (Lucky) Patt, Jr.
Following a long illness, Lucky Pyatt left us January 3rd. A lifetime member and past President of So. Cal's Knights of the Round Circle, he and wife Rickii were among the 'Orange County gang' who moved to Tucson several years ago. Most recently he was AMA's District X member of the CLPA contest board. A kind and caring person with a terrific sense of humor, he will be missed.

Lucky and Rickii Pyatt, seen at



VSC-14's Classic appearance judging at the Rodeway Inn.

Also departed last winter: legendary engine manufacturer Dick McCoy and WAM (Western Associated Modelers) founder Roy Mayes.

On a more positive note, it's time for the annual pilgrimage to Tucson. VSC-18 will be (or 'was', depending on when this issue arrived) March 15-18, ending ('ended'?) with the banquet and awards ceremony Saturday evening at the downtown Marriott. As always, we're bound to meet new people, some of whom we've 'known' only through e-mails and the online forums. Most of them seem to have one comment: 'I thought you'd be taller.'

The Way We Were - more views from the past:

Young NJ lad poses with 1964



version of his 'Clipper'. He didn't know it at the time, but he would stick with the hobby for a lifetime. In fact you could say there were Blue Skies ahead.

Same kid, 1965 version of the



'Clipper'. You guessed it: a much younger and leaner Tom Niebuhr of Blue Sky Models, Blue Ridge, TX.

Tom has had a heck of a year. Broke his arm a while back, following a series of unfortunate events that would try even the most patient of souls. He's one of the Good Guys. Buy one of his kits. Buy two, in fact.



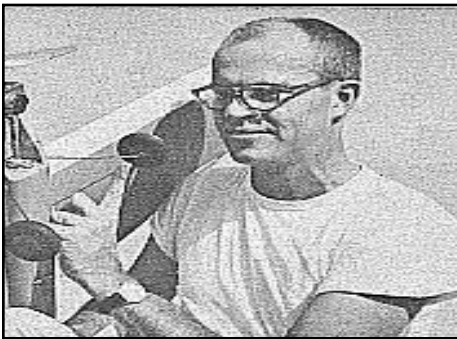
Bob Palmer in his heyday was often featured as a spokesman for Aero Gloss. That was before they changed the formula to satisfy the...um, never mind.



Who's the pit man grabbing that

ST .15 powered F2C racer? None other than Roger Wildman. Photo by Jed Kusik, from his CL column, June '74 Model Builder.

'Okay, so it won't fly a five-foot



corner... but then nothing will, remember?" Wild Bill Netzeband and his Goldbrick, seen in the Dec. 56 MAN.

Another spokesman for Aero

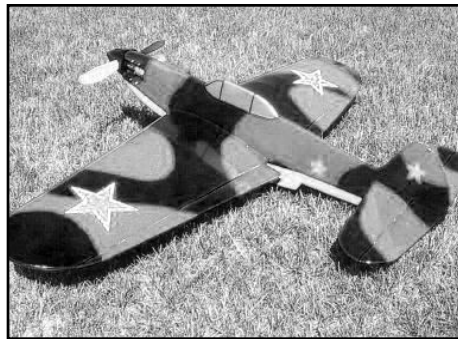


Gloss before the formula was changed to pacify the (you know), was our pal, Dale Kirn - seen here in the July '51 MAN. He's much better looking today.

That's pretty much it for the Memory Lane stuff since I didn't receive any other early photos from readers of this column (either one of them), thus the inclusion of grainy views taken from old magazines. Why not spend a few moments digging

out those old photos and send them here? Baby, toddler and early childhood pix would be especially welcome. All will be returned safely. Meanwhile, here are some current day views. ('The Way We Are'???)

Profile Yak-9 by Fred Stafford, Wayne, MI. From Bill Schmidt plans,



based on the Sterling S-3 kit, it has wing-mounted gear, '55 vintage Fox .29, 10-6 Top Flite and Champion plug. Sig dope over slkspan.

Build 'em large enough and you can ride in 'em. Chris McMillin test



runs what may be a prototype 'RO-Jett 9000' while waiting for the Ambroid to dry.

Remember youngest daughter Michele, former VSC 'official



hugger'? The kid, now 30 and a Petty Officer in the US Navy (P-3 Orion maintenance), is seen here at her marriage last October to Senior Chief Bill Sundeen at Lake Placid, NY. He is currently serving 'over there'.

Lately, I've been doing more judging than flying. Been involved with other interests the past several months, resulting in a building schedule completely unlike Sparky's (i.e., none)-a terrible example for someone allegedly (and arguably) an authority on OTS and Classic. The plus side to this is a vastly increased participation in judging.

There are apparently a handful of PAMPA members whose interest is focused solely on judging. They are valuable assets, being perhaps the nucleus of what has occasionally been proposed as a Judges' Corps. That is, a registered cadre of experienced individuals who know the rules forward and backward, and whose aim is to provide honest, unbiased-if occasionally brutal-scoring for competitors. I now find myself being drawn to that group, and while the official formation of such an entity remains merely an idea, I want in.

The fact is, I don't fly particularly well but I do know how things are supposed to look. Having seen numerous comments on the Internet forums regarding the quality of judging-some of which was in questionable taste-it occurred to me that Stunt judges are quite often selected at the last moment and may or may not be thoroughly familiar with the rules. (Having seen several examples of the latter, I phrased that as delicately as I could.) More than once, I have been on the receiving



end of this, baffled by low scores on what I felt were fairly decent flights- as well as a few pleasantly surprising "gifts" that I knew danged well I didn't deserve, though of course I never questioned those.

Running out of space here, so I'll just plant two thoughts before getting deeper into this next issue. First, in Old Time, the Level Flight height is six-to-ten feet. If for some reason you'd like fewer points, by all means fly lower. Second, read very carefully the section of the OTS rules dealing with Pattern Points. It is vastly different from current AMA rules.

Okay, now go find those old photos and send them here.



Randy Powell
<<email/phone>>



Brett Buck
buckbw@pacbell.net
(408)246-8173

Just when I thought I had gotten out, I get dragged back in again.

Well, guys, I took my little vacation from SN articles, but I just couldn't stay away. My need to pontificate overcame my need for free time! Randy Powell has graciously consented to sharing his column with me. We will be alternating back and forth from issue to issue.

DESIGNING /FINISHING

I think you will notice a distinct difference in our approaches to the topic. Randy has an obviously excellent eye for shapes, appearance and style. I am a typical engineering type, pretty much devoid of any sense of artistic expression. But I can usually figure out what it takes to make them go. I also have a very analytical approach to the topic. There will be math. I will try me level best to keep it at the algebra and high school physics level, and make it so if you want to skip the equations and just take my word for it, you can still get the point. But I encourage you to try to follow along, because there is nothing about it that anyone cannot understand. If it doesn't make sense, I figure it's because I haven't explained it well enough.

I also want to really explain what I understand to be the features of how a stunt plane flies. This might not go straight to "make the wing this way, make the tail this size" sort of design rules. I will explain why in a future issue (since I have a little bit of unfinished business to complete, as you will see below), but it boils down to the fact that I think the "numbers" that are used as magic formulas, while generally correct, really don't tell the most important part of the story.

I think it will quickly become obvious that I generally have a very skeptical view towards stunt "folklore". "Cut and Try" and experience are absolutely invaluable, of course, and we would be nowhere without them. But a lot of time people will find something that works using experimental methods, but then go on to come up with the most absurd and physically impossible explanations for why it works. Anyone who has followed my posts on the Stuka Stunt Works forum, or attended a stunt clinic with me, knows what I am talking about. I am also rather a stickler for the proper use of technical terms. A large part of my job consists of writing, reading, and approving technical papers - I just can't help using the real terms for things. I'll do my best to explain the concepts and make the terminology clear.



As a final warning and/or caveat, I will take virtually no credit for having discovered much of anything myself. We stand on the shoulders of giants - "Wild" Bill Netzeband, Al Rabe, and Ted Fancher in particular have influenced me with their rather extensive and well-grounded writing on the topic of stunt plane design and trim. But I have tried to learn from everyone and every experience. For the most part, I have no idea where a lot of the concepts I have picked over the years have come from. So I won't be able to fully credit them. I just want to make a point that just because I repeat something unaccredited, it's not intended as disrespect or plagiarism. We just have too many people contributing too many things, not really documenting it all that rigorously, and passing it along in too many ways, for me to keep track of it all.

Finishing the thought on Positive Incidence

In my response to Tom Dixon's commentary on positive stab incidence (SN May/June 2005), I only got through the rebuttal. But there is more to it than just that.

As I previously mentioned, if you look at a stunt plane from the side, they don't look symmetrical about the pitch axis. Most of them have the thrust line above the CG, the tail above the CG, more fuselage on top than on bottom, and, those big wheels hanging out the bottom. This is somewhat qualitative, but it doesn't even pass the "Mark I Eyeball" test for symmetry. Presuming that we want the airplane to react the same upright and inverted, there is no reason to believe that the wing and tail should be 0-0 with each other.

Real life experience tends to bear this out. Many, perhaps even most, well-trimmed airplanes end up with some slight offsets. And, as I noted before, it's usually down elevator at neutral flap, or downthrust, or a combination of both. Only a few crazy fools, as Tom so eloquently noted, actually build in stab

incidence, but that's just a variation the theme.

Even presuming that you believe the airplane is not symmetrical in pitch to begin with, and might need something offset, the fact that is usually intended to pitch the airplane down is still puzzling. Having the thrust line pass over the CG makes it want to pitch down. Having the wheels and landing gear hanging down 6" below the CG make it want to pitch down, too. So it would seem that the apparent asymmetry would make the airplane want to pitch down. And then I come along, suggesting that we need to do something to make it pitch down even *more*? Obviously crazy, but still, we keep having to do it to make the airplane fly level well, and have the same response inside and outside. So obviously, we are missing something.

Rabe Rudders and Gyroscopic Precession

Al Rabe realized 35+ years ago that gyroscopic effects affected the airplane when doing hard cornering, and people have understood gyroscopic effects in principle for at least 200 years.

Our props (and spinner and crankshaft) spin away at pretty high RPM. They act just like a gyroscope. The most interesting thing about a gyroscope is that if you move the spin axis, they "fight back" by trying to torque themselves off to the side of the way you are moving them. For instance, figure that you are holding your airplane level to the ground, with the engine running. If you try pitching the nose up, the airplane will try to yaw off to the right, and if you try pitching the nose down, the airplane will try to yaw off to the left. The same thing happens in flight; inside corners yaw the nose out, and outside corners yaw the nose in. There are other effects that matter, but there is no debate that gyroscopic precession works as described.

Al had a way to deal with this. He rigged up the rudder to the elevator so that

when you gave "up", the rudder moved to the left, and when you give "down" the rudder moved right. This opposes the precession and, if adjusted properly, compensates for the tendency to yaw from precession so the airplane stays tangent to the circle throughout the maneuvers.

Back when Ted and Al were going back and forth on the topic of Precession and P-factor (in Model Aviation in the mid-late 80's) I got curious about this size of this effect. The precessional torque is a function of the pitch angular rate ω_y (or how fast the airplane is rotating around the pitch axis), and the angular momentum of the propeller. Call the angular momentum h_{prop} , and the net torque T_z , and the applicable equation is:

$$T_z = h_{prop} \omega_y$$

Of course, for the mathematics fans this is actually a vector cross product, not a simple scalar equation, but as long as we are just looking at the components of the torque axis-by-axis, it's correct.

The angular momentum is itself a function of the angular rate at which the prop is spinning ω_{prop} (RPM), and a parameter called the "moment of inertia" of the propeller I_{prop} :

$$h_{prop} = I_{prop} \omega_{prop}$$

If we can get these parameters, we can figure out how much torque we get during our square corner.

ω_y is pretty simple. We are probably doing about a 13-foot radius corner, at best. We are flying at about 55 miles/hour, or about 80 feet per second. A full circle at 13-foot radius has a circumference of $2\pi * 13'$ or about 82 feet. That means it would take just a little over 1 second to do a complete 360-degree loop, so the pitch angular rate is 360 degrees/second. For the units to work out, we need it in radians per



second, and 360 degrees = 6.28 radians so it's 6.28 radians/second.

ω_{prop} is even simpler. Figure we are spinning about 11000 revolutions per minute. That's 183.3 revolutions in a second (which is impressive all by itself, by the way), at 6.28 radians per revolution, so

$$\omega_{prop} = 183.33 \cdot 6.28 = 1152 \text{ radians/second.}$$

I_{prop} is a little more mysterious. It's a function of the propeller mass (which we can just determine by weighing it) and how the mass is distributed. The more mass, the larger the inertia, and the further the mass is away from the prop shaft, the larger the inertia. The mass distribution is defined in terms of a parameter called the "radius of gyration" that has units of length (like feet or inches). The inertia is computed with this equation:

$$I = mr^2$$

where m is the mass and r is the radius of gyration.

The moment of inertia can be measured in various ways (some of which are practical, and useful) but fortunately others have trodden this ground before and made our lives a lot easier. Expert modeler and Racing pilot Pete Soule has posted some interesting results on his website

(<http://www.geocities.com/CapeCanaveral/Galaxy/4707/Aeronotes/proprg.htm>). He measured a bunch of different props and discovered that the radius of gyration was pretty close to a simple linear function of the prop diameter. Specifically, the radius of gyration r was about 0.225x the diameter of the prop for a very wide range of props. When I first saw this, I was surprised and skeptical at this result, but, by golly, when I went and measured some typical stunt props, it seemed to work our pretty darn close to right.

For purposes of example, let's use a 12.5-3.75 Eather "flat back" 3-blade. It weighs

about 1.2 ounces, so it has a mass of 0.00233 slugs. $0.225 \cdot 12.5" = 2.81"$, or about 0.234 feet. The moment of inertia of the prop is then:

$$I_{prop} = 0.00233 \text{ slugs} \cdot (0.234 \text{ ft})^2 \\ = 1.28 \times 10^{-4} \text{ slug} - \text{ft}^2$$

Now we can get the angular momentum:

$$h_{prop} = 1.28 \times 10^{-4} \text{ sl} - \text{ft}^2 \cdot 1152 \text{ rad/sec} \\ = 0.147 \text{ ft} - \text{lb} - \text{sec}$$

and finally the yaw torque:

$$T_Z = 0.147 \text{ ft} - \text{lb} - \text{sec} \cdot 6.28 \text{ rad/sec} \\ = 0.926 \text{ ft} - \text{lb} \\ = 178 \text{ in} - \text{ounces}$$

What does this mean? It means when you do a maximum-performance corner, the precession tries to twist the airplane nose-in or nose-out in yaw. Hence, you rig the Rabe rudder to create an opposing torque. And this is a *pretty large* torque. Your Belchfire 61 super-machoman engine is, at best putting out about *half* that, for instance, at the shaft. I can't recall having seen this computed in a published paper, but I'm sure people have done it before.

Huh?

At this point you are probably wondering what this has to do with positive incidence. Well, we fly around in a constant left yaw, just by virtue of going in a circle. Precessional effects arise from this, too. And those effects act in the *pitch* axis. The direction of this precession is, effectively, inducing a nearly constant "nose-up" torque. Nose-up in the airplane reference frame, as if you were sitting in it, or, a lot like you were continually putting in a little "up" elevator.

I think THIS is, to a large degree, the "missing" torque source.

To calculate the size of this torque, the same methods used to calculate the yaw torque applies, and a lot of same parameters come into play. The only thing different, in fact, is that that the

"body rate" is now in the yaw axis, and the direction is different. Figure for sake of argument that our lap time is 5.3 seconds. That's 360 degrees (2π radians) in 5.3 seconds, so, the yaw body rate ω_z is 1.18 rad/sec. So, the pitch torque is:

$$T_Y = h_{prop} \omega_z \\ = 0.147 \text{ ft} - \text{lb} - \text{sec} \cdot 1.18 \text{ rad/sec} \\ = 0.174 \text{ ft} - \text{lb} \\ = 33 \text{ in} - \text{ounces}$$

This is a pretty big torque, and it's like a continuous "up" elevator.

This is a *real* effect. It's not something I just dreamed up. We *have* to compensate for it somehow, either at the handle, or in the basic design.

The sum of this torque, and all the other pitch torques, is not zero, the airplane *will* pitch up or down.

I think this is a significant factor in the fact that many, many airplanes over the years needed to have some sort of "bias" applied to make it turn the same inside and out, and to a lesser extent, why slightly offsetting something to create a nose-down torque seems to help in level flight, too. If you really *did* make the airplane symmetrical (i.e. in-line, 0-0 alignment, and no landing gear) you would end up holding a fair bit of "down" elevator pressure to keep the airplane flying level. And, you would have to bias the amount of pressure it takes to maneuver, easier on insides and harder on outsides. Of course, most airplanes aren't really symmetrical in the first place.

Incidence, or Downthrust?

Assuming you did want to compensate for this effect somehow, which would be better, incidence or downthrust? Both have been used over the years in small degrees to control the inside/outside turn loads.

The speed of the airplane is reasonably constant, so assume that our gyroscopic pitch torque is constant as well. It's not, of course, but it's pretty close.



Downthrust creates a nose-down torque that's proportional to the thrust, and the distance the thrust line passes over the CG. At a constant speed in level flight, the thrust is also constant so the effect of downthrust in that condition is constant. But, the thrust varies wildly in the maneuvers. When you go into a hard corner, the speed drops a little, and the thrust from the prop goes up *tremendously* to compensate. So, downthrust will have a varying effect in the maneuvers.

Positive incidence creates a torque proportional to the square of the airspeed. The airspeed obviously varies, but over a pretty narrow range.

It's my opinion that this is closer to the effect we want to compensate for our pitch precession effect. Think of it as doing something similar Rabe Rudder, except for pitch instead of yaw, with the added simplification that it's just a fixed offset.

I have not found it possible to do a very believable calculation of how much positive incidence you really need. We would probably need to do some wind tunnel tests to get a reasonable approximation. What has been done is that, in trimming, the value of the offset had been experimentally determined. David Fitzgerald's "De-Tails" article is the best-documented example of this. But just go through the pits at the NATs on Top 20 day and see how many airplanes have down elevator and neutral flap.

All I did to decide to build in my positive incidence was to experiment with the flap/elevator neutral until it seemed about right, divide by two (since I was planning on tilting the entire tail, not just the elevator) and build that in. On my airplanes it's about 0.25 degrees.

Caveats

Other people, notably. President Paul, have experimented with positive incidence, and found it not valuable. In the case of the Impact, down elevator bias at neutral flap seemed to be a better solution. I can only guess that the flat

airfoil was too sensitive around neutral for this to work. My airplanes have airfoiled tails and those seem to be more "linear" at very small angles of attack like we are talking about here.

So, as I mentioned before, tread lightly on the topic of positive incidence. It's not a panacea, and FOR SURE it doesn't follow the "stunt fliers maxim" - "if a little is good a lot is better". This is a very subtle effect, and if you overdo it, it will be worse than if you had done nothing.

Summary

To sum it all up, our airplanes ARE NOT symmetrical, even from considerations of geometry. Additionally, the fact that we fly in a circle with a spinning prop up front means that the pitch axis has a nose-up (positive pitch) bias torque that has to be taken out somehow. If you rig in either downthrust, or positive incidence, it will tend to compensate for the effect, so you won't have to compensate for it at the handle. And in any case, take care not to overdo the effect or you will screw something up.

A Note on Nomenclature

In the above, I used the standard axis definitions, specifically. Roll = X axis (positive = right roll), Pitch = Y axis (positive = nose up), and Yaw = Z axis (positive = yaw right). That's why the subscripts are X, Y, and Z.

Functions of trim adjustments

Brett Buck, December 3, 2005

The trim of the model is by far the single most important factor (aside from the quality of the engine run) in making the airplane fly well. To fully trim the airplane, people have added more and more adjustable trim features. Everybody knows that you are supposed to include all the modern adjustable features in your killer stunt ship. But it's often asked what they all do!

Without attempting to cover how to trim a stunt plane (a

topic upon which we could easily get to Encyclopedia Britannica dimensions), it's at least worthwhile to know what nominal effects each trim adjustment has. I say "nominal" because one of the most important factors to learn in trimming and even designing airplanes is that a change in one area almost always affects everything else. There are a few examples below, but these are just the tip of a huge iceberg, and the descriptions, while hopefully useful, are an oversimplification.

I have divided the adjustments into those that primarily affect the Roll and Yaw axes, and those that effect Pitch. For those who haven't been studying aeronautics since their pre-natal days, these terms may be unfamiliar or at least not well-defined, so I'll take a stab at it.

The pitch axis of the airplane is the one you control - nose up and down. Positive pitch is nose up. Roll is rotation around the "long" axis of the airplane from the nose to the tail. A positive roll tilts the airplane to the right, so that, for example, in level flight, the right wing is down and the left wing is up. Yaw is a rotation around the "vertical" axis of the airplane, nose to the left or right. A positive yaw is a rotation to the right, so that the nose is aimed to the right of where you are going.

Note that these are all relative to the airplane. Right/Left/Up/Down are all determined as if you were in the pilot's position - not, importantly, relative to the ground, unless you happen to be flying level. That's important to remember, and I have seen many, many situations where



people became confused about it.

Also, given that they are angles, it begs the question “angles relative to what”. That’s an interesting question which would take some time to think through and explain, but for the time being let’s say that roll and yaw are relative to the line drawn from the airplane to the pilot. So, there you are, flying happily through the maneuvers. At any instant, you could imagine a line drawn from your hand to the center of gravity of the airplane. In level flight it would be parallel to the ground. In the intersection of the overhead 8, it would be perpendicular to the ground. The roll angle is the angle between this line and the “side-to-side” axis of the airplane, and the yaw angle is the angle between this line and the “long” fore-and-aft axis of the airplane. And let’s say that the pitch angle is the angle of the long axis of the airplane relative to the current direction of flight. They aren’t the same! The nose can be pitched up or down relative to where you are actually going. This is not an entirely satisfactory definition, but it will do for now.

I will also emphasize that virtually none of the information in this article was invented, discovered, or first explained by me. It’s an accumulation of the knowledge of others, and I don’t even know where I first heard of some or most of it. So I can’t provide attributions properly. I apologize in advance. There’s no intent to claim it as my own.

With the preamble and caveats out of the way, on to the adjustments.

Roll/Yaw adjustments

Tip weight: primarily affects the ROLL axis. More tip weight than necessary rolls airplane away from you, which, VERY APPROXIMATELY directs the lift vector away from you, and gives you more line tension. Too much and it pulls hard, but the line tension varies a lot, too, and the airplane oscillates in roll (hinging). Adjust to keep roll angle at zero through maneuvers.

Rudder offset (fixed/ground adjustable): primarily affects the YAW axis, although yaw and roll are very strongly coupled. Set the *equilibrium* yaw angle, or the yaw angle at which the airplane flies in steady level flight. In my opinion, the goal is to set the equilibrium yaw angle to zero.

Rudder offset (in-flight variable - “Rabe Rudder”): pitching the airplane while having a big prop up front, spinning at goodly RPM, causes the airplane to want to yaw “nose-out” on inside maneuvers, and “nose-in” on outside maneuvers. This cannot be fully corrected by a fixed/adjustable rudder. So Al Rabe figured out to hook the rudder to the elevator, so it moves to give more left rudder on insides, and more right rudder on outsides. Usually, it needs to be asymmetrical, moving a lot more right than left (for reasons that might or might not be obvious).

Note that the purpose is most emphatically NOT to make the airplane yaw nose-in or nose-out, in fact it’s to prevent the nose from yawing in or out by providing a compensation that counteracts the precessional torques.

If you adjust it right, it compensates well for the precessional effects. Al’s

worked well. Problem seems to be that unless you are an absolutely expert-level trimmer you will not get it adjusted correctly and, given that it’s a very powerful feature, it is almost always overdone and causes more problems than it solves. This includes many “name” experts.

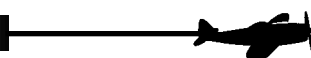
Flap “tweak”: primarily affects the ROLL axis. Bend the flap horn for a ground-fixed “aileron effect” to make roll angle identical with positive and negative accelerations (Gs).

Leadout adjustment: primarily affects the YAW axis, but cannot be separated from rudder adjustment. I use the leadouts to take out *transient* effects, so that the leadouts and the equilibrium yaw angle are *complementary*.

Too far aft, and you a lot of line tension in level flight, but lose it overhead. Too far forward, and the airplane noses in at every control input and loses line tension.

The leadout position is related to the center-of-gravity. For my purposes, the “baseline” leadout position can be calculated using the computer program “LINEII” downloadable from Pete Soule’s website. The position calculated this way is the position that corresponds to the “0 yaw angle” ideal.

Others use the leadout position to create “opposing forces” so that they have a rather large equilibrium yaw angle, and then overcome the ill effects overhead by forcing the nose back in with a forward leadout position. This creates yaw, roll, and (because the line tension changes when yawing and rolling) pitch transients.



Differential flap area: This "adjustment" primarily affects the roll axis. It exists to compensate for an interesting observed effect - that sometimes it looks like you need less tip weight to do a square corner than a round corner, and less tip weight to do a round corner than to fly level (all assuming 0 roll angle). Folklore says this is so you can "carry more tip weight", which is vaguely correct if you only see things in "binary". It's really because of aerodynamic asymmetry effect (even if you have equal-span wings) of flying in a circle.

Wing asymmetry: this "adjustment" primarily affects the roll axis. It was originally envisioned as "using the fuselage/engine as tipweight", which, once again, is vaguely, notionally, correct. In fact you are attempting to line up the lateral CG position with the lateral center of pressure. 1/2-3/4" is about right, more leads to less tipweight, but more likelihood of needing a lot of differential flap area. That's because everybody just moved the wing off center - and left the tail right down the middle!

Wing fences/drag tabs/drag vanes - other ways of doing various things. Never seemed to prove useful over the long haul, sometimes useful for specific problems, I don't think it's worth going into at this point.

Pitch Adjustments

Nose weight/CG: used to adjust the CG of the airplane, which controls the stability, and secondarily, controls pitch rate/lift ratio. More nose weight makes airplane require more control movement and thus control force for a given pitch rate and is more "stable". More stable

also means more tendency for corners to "open up" in the wind. The more aft the CG the less control motion it takes for a given pitch rate, and the less "stable" it is.

Handle spacing: used in conjunction with the CG adjustment to create the desired control response for the pilot. More spacing = more sensitive, less spacing = less sensitive

In general set the CG the way the airplane wants, usually as far aft as it can go and still have *slight* positive stability. The maximum allowable aft position depends on the tail volume coefficient. Then set the handle spacing for the control sensitivity you want.

Flap/Elevator movement ratio: used to set the pitch rate/lift ratio, which sets the quality of the turn. In some sense this depends on the wing loading - heavier and you want more flap motion than elevator, and lighter and you want less flap motion than elevator. This can be a rather subtle adjustment and for most people just setting it to 1:1 (or whatever the original designer wanted) is probably going to work for you.

Flap/Elevator neutral/incidence: Used to adjust the inside/outside turn rate, OR, maximize tracking/stability. Most airplanes of conventional layout need some down elevator at neutral flap to fly best. Partly this is because of aerodynamic asymmetry (thrust line/wing/tail out of line and/or other drag asymmetry) but mostly it seems to be due to the pitch component of gyroscopic precession (which creates a constant nose-up pitch torque, for which the "down elevator" is compensating).

Adjust to find the "sweet spot" in tracking. Usually, ANY "up" elevator at neutral flap is severely destabilizing, and a lot of down seems to be pretty well tolerated.

Positive stab incidence is just a (permanently built-in) version of the same thing. I would recommend doing this ONLY if you have discovered that a particular design always needs it. It's obviously hard to adjust so leave this to the experts (fools) like myself. If you build an Infinity it wants to be about 1/4 degree.

Downthrust - Used for roughly the same purpose as Flap/elevator neutral, compensating for the same asymmetrical pitch effects. More downthrust raises the thrust line, creating a nose-down pitch torque. Easier to adjust than positive incidence, assuming you don't mind messing up the spinner fit. Once again, build in only if you really know it's necessary or beneficial. I would guess it's less likely to screw anything up than positive incidence.

On the topic of these pitch asymmetries - Folklore indicates that "since the airplane has to fly the same upright and inverted everything has to be 0-0". Once again, folklore is vaguely correct, in that it needs to fly the same upright and inverted. But our airplanes are nowhere close to symmetrical in the pitch axis even if the wing and tail are aligned perfectly. So there's nothing magic about 0-0-0 (wing/tail/engine), in fact it's a gross oversimplification. That knowledge helps ONLY to break the closed-minded assumption that if you put it all at 0-0 and it doesn't fly perfectly, it must be "misaligned".



I think this more or less covers most trim adjustments.

Basic (simplistic) trim process

This is a very over-simplified sequence, but if you do it correctly it will get you very close to the optimum trim, assuming the airplane doesn't have any serious misalignment of the stabilizer to the wing.

Set the CG: The desired starting CG position depends on the tail volume. It's somewhat of a debatable strategy, but Ted Fancher has a rule, that despite it's simplicity works out about right assuming you have a relatively conventional airplane. Compute the ratio of the tail area to the wing area (including flaps of course). That should come out to something like 0.18-0.26 (or 18 to 26%). Then set the CG at about that fraction of the mean chord. So, for example, you have a 25% tail, and an 11" mean chord. The CG should be about 2 3/4" from the leading edge at the point of the mean chord. This is the MAXIMUM aft position. If you are going to make a mistake, or can't get it quite where it says, err on the side of further forward.

And, importantly, don't leave it in the wrong place to save weight! If you need 3 oz. of nose weight, then so be it. You shouldn't save weight by compromising the trim. Or, actually, you can, but you'll lose an awful lot of contests that way. Same with tip weight. Trim is more important than weight, period. That's so important I will repeat it - Trim is more important than weight!

Leadouts: Plug in all your numbers into LINEII and make sure you take out the "whip angle" that is in the default settings. Then put the

leadouts where it says relative to the CG. (labeled "Leadout Offset"). For a check, a typical 64 ounce 40-60 airplane on .018 lines, it comes out about 3/4". So put the centerline of the leadout guide 0.75 inches behind the balance point.

Unless the designer says otherwise, set the flap/elevator ratio to 1:1 and the flap/elevator neutral to 0-0 or a little bit (maybe 1/16) of down elevator at neutral flap, and no downthrust.

Fly it upright and inverted. If the outboard wing is high both ways, add tip weight until it's level. If the outboard wing is high one way and low the other, tweak the flaps to roll the airplane so it's the same upright and inverted. Watch in hard corners. If the airplane rolls away from you in hard corners, take out tip weight. If it doesn't, add tip weight a little at a time, until it does noticeably roll away from you, then take out the last bit you added. If it pulls hard in level flight but severely falls off overhead, or tends to go loose on the first leaf of the clover, move the leadouts forward a bit (1/16 at a time). If it suddenly "comes loose", usually on insides, move the leadouts back a bit until it stops doing that.

That should get you pretty close. If you have an abnormally light airplane watch for a tendency to "swoop" into corners (looks like it rotates around a point behind the airplane) increase the elevator motion relative to the flap A LITTLE BIT. If you have an abnormally heavy airplane you might need to increase the flap motion relative to the elevator.

Adjust the handle spacing to get an agreeable control response.

Don't set it up for excessively quick response.

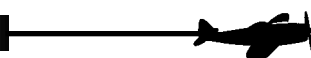
Once you get it close, start watching for the airplane to "leap" around corners, come out higher than you expect on round loops, or have the control effort suddenly become "light" in square corners. If that happens, try moving the CG forward a little bit at a time until it stops, and then readjust the handle to get the right sensitivity.

If the airplane feels heavy on the controls and wants to come out lower than expected on round loops, move the CG aft a little at a time until it quits.

Another CG measure is what happens when the engine quits. If the airplane pitches "up" right when the engine quits or is very "floaty" in the glide, the CG is probably well too far aft. If the airplane pitches "down" as the engine quits, and is very easy to "whip" in the glide, the CG is probably well too far forward.

That's as far as I think we can go in the hypothetical, but it will be *very close* if everything is straight and reasonable weight and power.

- BRETT BUCK



Welcome to the new Design and Finishing column. Not sure if I'm first up or if Brett was able to sneak in there first, but either way, we should have a great time.

What do you want?

I want to talk a bit about what it takes to turn a pile of wood into what you wanted in the first place: a competent and attractive airframe. How do you get what you intended to get. Whether you're building from your own designs, magazine plans or the latest, totally cool, laser cut kit, it's important for you to think about what you're trying to accomplish. For myself, I've often started out to do one thing and ended up with something else. To illustrate:



Recently, I designed and built what I thought would be a good, small, .40 powered design that would fly well in poor conditions. I wasn't trying to build a front row plane. I was looking for something that would be largely overpowered that I could prop back for less strenuous conditions, but that would stand up to heavy winds, turbulence and such. The goal was for it to be relatively small, light and rigid. I got carried away. Along the way, I forgot the vision that inspired the plane in the first place. I ended up with a 620

square inch, very heavy and largely useless wall decoration. But it sure looked pretty:

It weighed over 80oz initially. Largely due to my poor building skills when it came to foam wings. I used too much epoxy to skin the wings, got too carried away and used a poor design for the bottom block structure (coming from changing my mind too many time in what I wanted) and I got too involved with the finish. Point is, you need to be clear about where you're trying to get from the beginning.

With this horrible experience in mind, I went on to build a classic plane. My goal from the first was to build a plane that could do double duty. I wanted a plane that would fly well in classic, but also be competent in Expert PA, mostly because with the complete failure of the above plane, I needed something that would fly. I choose Bill Werwage's USA-1. I knew from what I had read that the plane would not fly well over about 57oz. So the goal from the beginning was to make it light and sacrifice all else to structure and weight.

It came out looking OK, though not my best finish. It weighed 52oz and powered with an SSW Magnum 53, flew very, very well. I spent a lot of time insuring that all areas of the plane were as light as I could get them. I went easy on the finish and ended up with a presentable, if not first row result. But primarily, I had a very good plane to fly that served me well. With both of these planes, I spent a lot of time deciding goals and direction before the first piece of wood was cut. In the first case I veered away for those initial decisions rather radically, changed my mind repeatedly and ended up with a useless wall hanging. In



the second, I stuck with plan. The difference in result was enormous.

These are two obvious examples of what can happen from both bad and good planning. It doesn't really matter whether you're flying at the top of the Expert class or just breaking into Intermediate. Keeping the vision of what you are trying to accomplish from the first cut of the knife to the final coat of clear will aid tremendously in how happy you are with the outcome. Had I been a little more careful along the way and remembered what I wanted and had planned, the first plane would have been a useful tool.

OK, new but somewhat related topic-

Recently, Marv Knowlden and I



have been exchanging emails about finishing materials and techniques. Marv has been getting back into building and flying after a layoff and was asking some questions. He's a sharp guy and his questions got me to thinking about all the recently introduced (to our endeavor, anyway) materials being used, compatibility between such materials and traditional finishing methods and how this all fits with the outcomes we want. So I suppose it becomes the same question: what are we trying to accomplish?

Generally, I suppose we all want

the same thing; a glossy, striking finish that doesn't add a pile of weight to the plane and is eye catching. OK, semi-scale guys may want a somewhat different outcome, but you get the point. Paint and trim are a chance to express our creative vision, show off the construction and enhance the presentation of our planes. It's saying, "Here's what I think a stunt plane should look like."

A lot of very good builders have been using various types of urethanes. The enormously increased color choices of auto urethane basecoats and the durability and ease of use of clearcoats like catalyzed polyurethane are awfully attractive. But using such products will bring up issues of compatibility. So, what are the key issues?

If you are building a plane with structures that require covering, you're pretty much stuck with silkspan or a variant like polyspan or similar products. In such cases, you have to come up with a way to shrink the covering over such structures. And shrinking it usually requires butyrate (or nitrate) lacquer or a similar material. Believe me, I've tried a lot of alternative approaches. I've gone from various urethanes (both solvent and water based) to some other, pretty exotic materials trying to find an alternative that will taunt the silkspan and is compatible with newer, urethane based products. In the end, I don't believe anything sets up a good substrate with covered surfaces as well as plain, old dope.

You can get around this by building without open structures and that's fine. Guys like Al Rabe build with completely closed structures.

This allows the use of epoxies, urethanes or other materials from the wood up. The need for dope-based substrate goes away. You now have the ability to use completely compatible, non-butyrated lacquer materials all the way through from wood to clearcoat. It may be worth it, in spite of weight considerations, just for the ease of using such materials. It's something to consider closely before you start building. But if you build with areas that require a taunted covering, you're pretty much stuck with dope and silkspan.

So, you cover with silkspan and dope in time honored fashion. Now comes the decision. If you go with butyrate lacquer from the wood up to the clearcoat, you're in business. Just use the same materials we've always used all the way up. Doing things like changing thinner half way though or mixing Sig with Brodak or whatever can mess you up, but if you stay with the same products and use tried and true methods, no worries. Folks have been successfully using these methods for a very long while.

But what if you want to use some trick metallic or semi-metallic colors? Or maybe pearlized, iridescent or chameleon colors? How about flairs or gems or maybe transparents or semi-transparent? Hmm... maybe you've been to a custom car show and seen sparklescent or ice-pearl or hi-lite interference colors? How cool is that? How would one of those look on your new world-beater or classic ship? Or perhaps you have some colors in mind and the only way you can get them is through urethane auto colors?

I've been wrestling with this for

the last several planes. This isn't an article about finishing methods so much as understanding what the considerations are when deciding what you plan to use. Remember that the key element is compatibility. How to do you get dissimilar materials to co-exist? Next picture is of my plane, Tango Red.

This plane was a disaster in some ways though the final product came out fairly well. I initially wanted a dope-less finish in an effort to make a compatible finish from the wood up using the colors I wanted. I had completed some tests and found that with care, you could use water-based polyurethane on silkspan and shrink it with a heat gun. I thought that perhaps, based on these tests, I could use Polycrylic (a water-based polyurethane) from the wood up and shrink the open bays on the wings using heat. I foolishly put straight Polycrylic on the raw wood structure. I hadn't considered all the relatively unsupported structure in this wing and this material caused all sorts of warping. I tried stripping off a lot of the planking and tried to iron and straighten the wing. Eventually, I gave it up as a bad job and just built a new wing. This time I did the usual dope on the bare wood and covered with silkspan. I then slopped on 3 or 4 coats of clear dope. I then used an automotive primer called Omni K-36. This is a catalyzed polyurethane primer that is marginally compatible with lacquer. I thought it would make a good boundary layer between the dope substrate and the urethane color coats I planned to use. Problem is, it's heavy. So I went easy with it. The color coats are standard automotive urethane and the clearcoat is catalyzed polyurethane, While there are a lot of problems with this sort of system as far as adhesion, compatibility and weight,

it can work if you take it easy and



allow sufficient drying times. The key idea with this plane ultimately, was to insure compatibility by using a boundary layer between dissimilar materials. In this instance, I used the fillercoat as a boundary layer. I might have used dope and talc as a fillercoat then used Polycrylic or some other material that is relatively inert as a boundary layer. But I hope I never have to repair it. It will be virtually impossible due to the incompatible materials used.

The point of all this is to consider carefully before you go "off the farm" in considering alternative finishing materials. I'll continue to experiment because I like the color selections available with alternate materials. But I haven't yet found that perfect finishing system yet. One in which all materials are compatible, it's easy to repair, I can have any color I want and it's easy to apply. But I'm still looking...

- RANDY POWELL





Hoyt Hawkins

My current finishing method is Certified or Randolph color with automotive toners added to get those colors not available off the shelf, talc filler/sanding sealer and final coat of Automotive Clear coat. The result has been 18/19 points under some very critical judging.

Here's the process:

Sand all bare wood smooth with 320. Apply 2 brushed coats of Clear thinned 30%. Sand lightly with 600. Cover all wood with .02 oz. carbon veil. Apply 2 more brushed coats of the same clear mixture. Again sand lightly with 600.

Pour some full strength clear in a large container with a good sealing lid. Now dump in as much Talc as will stay suspended in the dope (allow about 10 minutes to settle) Next, very important step is to mix in a small amount of Black dope, just enough to make a very light gray. The very best Talc I have ever used comes from Tap Plastics. It has no odder or oils. Next, thin this mixture only enough to get it through your spray gun. I use a

How to get a great dope finish by **Hoyt Hawkins**

big ugly gun with pressure feed, they're cheap and readily available at Sears. Spray on a medium heavy coat of this stuff. Let it dry a day. Now here's the really cool part. You're gonna sand off 80 to 90% of this and you'll hardly break a sweat! This stuff powders like crazy! It took only 3 hours to sand an entire classic ship leaving only enough to fill. Now since this mixture is gray you will be able to tell the low spots and areas that need more work. No need to get out the spray gun, just spot these areas with a brush and sand. Once everything is uniform thin some clear dope 80% that right 80% and spray on a quick wet coat!

Color: Thin all colors 50 to 60% with and spray on dry. Just enough to cover, don't worry about shine, blushing or even being a little rough. Once all colors are on. Spray on 2 coats of clear thinned 60%. Again don't worry about shine or blush. Lightly sand everything with 800 wet being careful not to sand through the clear coats. Finally once everything is sanded **CLEAN EVERYTHING WITH WINDEX. CLEAN IT AT LEAST 2 TIMES USING WINDEX.** I usually do this procedure 4 times. Degreasers such as Prepsol or AcryliClean don't get the job done. What you really want to do with cleaning is remove everything that is not fixed permanently to the surface. The reason for all the cleaning is I discovered that just about all of the dust particles that end up in the clear coat are on the plane to begin with. Very little comes from the air. Once you have cleaned and re-cleaned go over everything with a tack cloth several times being

careful to apply only light pressure.

Now you're ready for the main event. Lightly apply 1 coat of Automotive Clear. I use PPG Global Performance System Clear D893 and D871 Medium thinner/reducer (this is very different stuff from the DAU 75). This is a 3-part paint, clear, catalyst, and reducer. I use 50% reducer to get a water thin mixture. I also use a gravity fed touch-up gun to put on a very light but even coat. The PPG is dust free in about 10 minutes and the model can be handled in about 2 hours. Your plane will shine like glass at this point and depending on how much dust you have in your spray area you just might be finished! If there is dust fear not. Wet sand with 1200 or 1500 (which ever you have the patience for) and rub out. This whole process added 9 oz. to a fairly large 750 sq. piped ship that has a lot of fuse, rudder and cheek cowls. It only took 6 oz. for my Vulcan classic ship. While I've heard of 4 to 6 oz. finishes by others I have never been able to get it that light no matter how hard I try. The weight of this is quite reasonable and very fast and easy. Hope this helps.



BUILDING

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This Christmas I set out on a new airplane it was to be a 59 ARES. Now I have 9 days off between holidays and I thought I could complete the job. For those of you who do have internet access I posted this build as it progressed on Stuka Stunt Works. I am sure this sounds like a monumental task but if you follow some basic instructions it is not as bad as one would think. I hear all the time Wow an I beam, that's just too

much work! Well I have to tell you it's the easiest wing to build and align. After you have all the parts cut and start gluing it goes together like a snap. In the early 1970s Jack Sheeks would build a new airplane a month (or it least it seemed that way) his new creations were mostly I beamers.

that you try to design around a large



Once the concept is figured out it is easy to turn any design into a I beam plan form. Not



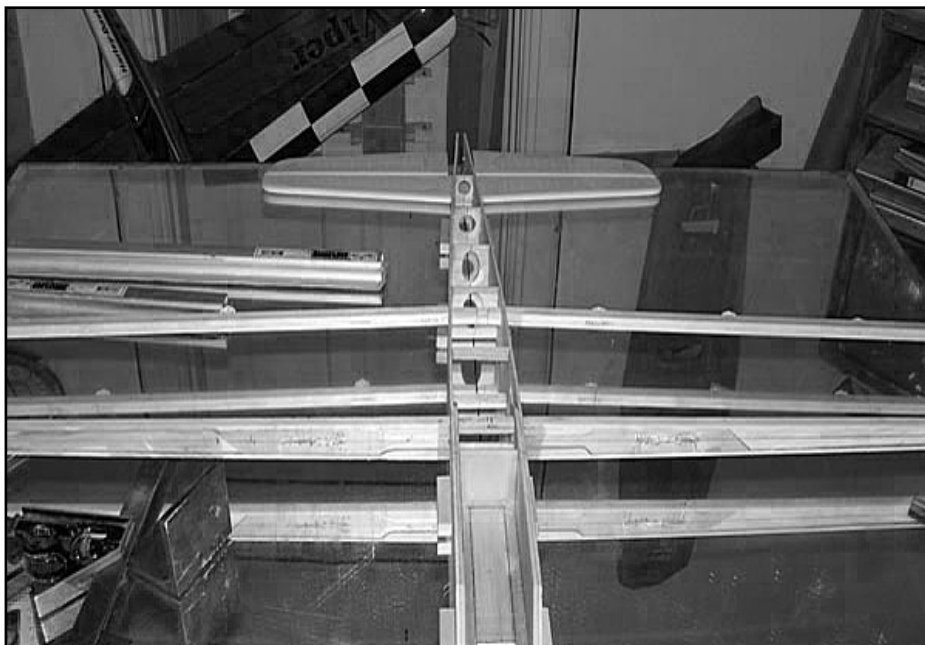
all airframes are suited for this type of construction. I would not suggest

late model type aircraft. The wings are not as ridged as the D tube or C tube wing. However they are best suited for classic style planes.

First thing I did was to cut myself a kit. I cut out all the parts before embarking on my project. Lay up all the parts that need to be epoxyed together: Spar, doublers, triplers. At this time I would like to suggest that you purchase one of the many tapes available to us. I happened to like the Robins View tape from Bob Hunt as it shows Billy Werwege building this plane. I figure why argue with success.

Build the fuselage and glue to a piece of glass upside down with spar in place. I like to make my own leading and trailing edges. Sand them to shape, if you cut them to shape they will warp. Place LE and TE in the locations on the tip plates and fuse.

Start by measuring at the spar rib locations and then transfer them to the LE and TE with a square. Place ribs at LE and cut the tail end off at the TE. Leave the rib stick up about a 1/64 of an inch. This will later be sanded into the LE and TE. Cut away from glass and turn over, repeat the



whole process takes about 6 hrs start to finish. At this time you have a complete airframe.

Next after sanding elevators and stabilizer install and hook up bell crank. Cut sand and hollow top

and bottom blocks.

I always use carbon fiber .02 on the bare wood. 3 coats of dope. Sand with 600. At this time affix the canopy and

place fillets. Prime and begin the finishing process.

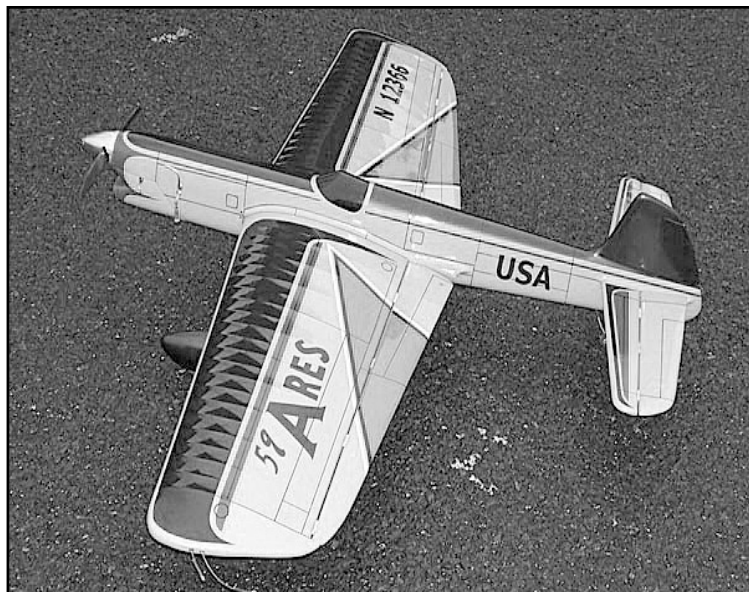
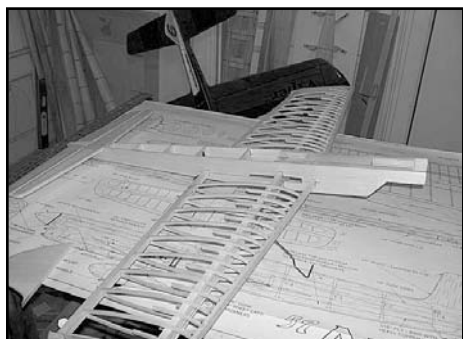
I have added a few photos of this whole process. Remember it only took start to finish 9 days. I did have to wait to shoot the clear but it was in the air in two weeks.

I will be giving some speed building talks at this years NATS. If your interested drop me a line and let me know. In a think tank situation we all can learn!

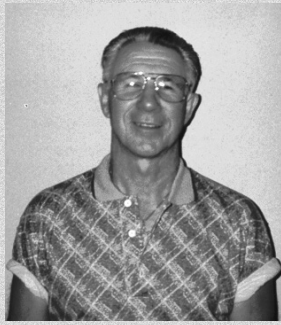
As always remember the finish starts with the first piece of wood cut! Just a side note on my last statement. I was at our club meeting and was asked just what I meant by that statement. Here's the analogy . If you cut the wood to fit you will not have to do as much sanding in the end. This is especially important on I beam construction. The less sanding you do on the wing the better in order to keep a true airfoil.

It's back to work in the shop I am starting a new Viper for next issue and hopefully for the 06 NATS.

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CRASH REPAIRS



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Heidi, Reuben, and Steven MacBride are some of our best friends, so it was really disappointing hear that Steve had crashed his Time Machine. He stopped by the house so I could look at the crash results and help him decide if it was worth repairing. We laid out all the parts, but too much of the wing center was shattered to make repair reasonable. I suggested that he repair the fuselage and tail, then build a new wing from scratch. When the wing center is severely damaged, sometimes a new wing is the most reasonable repair.

Wing centersections are critical stress areas because of the way the ship's weight is supported by the lift distributed along the span. Though the following isn't accurate in an engineering sense, it gives a general concept of what a wing's centersection has to withstand: Put one wing tip on your bench and hold the other up, then press down on the fuselage with about 15 times the model's weight. This roughly approximates what a wing centersection sees in a high-

G condition, such as pullout at the bottom of a square loop. In this condition the wing structure bends...then in some cases it breaks. The structure of the centersection has to be able to withstand these loads that are caused by high positive and negative Gs that the pilot commands by deflecting elevator (and flaps)...plus additional loads that can be caused in windy conditions. That's why if the wing center structure cannot be repaired to at least original strength, it's more realistic just to build another wing... and it's often less work to build new than to clean up and repair a broken structure. If you don't get everything repaired completely, you may lose the entire ship on a later flight, as happened to my A-26. For what it's worth, I've found that repairing a wing centersection is a lot easier if your model is a take-apart type than if it's a one-piece ship.

When repairing a fuselage, the additional forces of the engine running and vibration need be taken into account. On wood models it's vital to see if the wood is oil-soaked and if it can be glued effectively. A good choice on fuselages it is to sand the repaired areas and apply several layers of fiberglass cloth (not veil!) to reinforce and "skin" over the sanded-out repaired area. I like West Systems resin and 1/2-ounce Brodak glass cloth for going over repairs.

There are usually two phases in repairing a ship. First, get all the load-bearing structure done. I then like to fly the ship in the highest wind conditions possible to see if everything repaired will be reliable.

Then and only then is it appropriate to do the hours of cosmetic sanding and finishing.

While we were at the Hampton meet, a tent blew over and damaged two of Dave Midgley's models. We did the structural repairs right on the field, then Dave carefully did the cosmetic work at home. Remember that on open-bay ships the silkspan itself is a major part of the structure. A tear in the tissue close to the fuselage can weaken the whole wing by creating a stress riser right where the tear is. A patch of packaging tape may be fine to get you through a contest, but new tissue and dope shrunk properly is best.



Here are the results of an interesting experiment I did recently—it may be helpful to others on similar or different designs. My Miss Ashley II is now the veteran of several flying seasons. Many, many pilots have flown the ship over the years. I've had it trimmed several different ways, and it served as a test bed this past year for the RO-Jett .77. Because the .77 is about 3/4 ounces heavier than the .65, I added tail weight to get it back to its previous CG location. With weight at both ends, the turn quality suffered slightly. Since I had variable elevator ratios, I set it for more



elevator travel, and it got slightly better. Then I took out the tail weight, and it got sluggish, but not as sluggish as before the elevator travel was increased. Then I remembered the '92 Cardinal that I crashed on Top Twenty day at the '92 Nats. That repair was significant, and when I flew the ship it was heavier and seemed sluggish. I taped on elevator and flap extensions of 1/8" x 3/8" balsa, in effect making the movable surfaces bigger, and it worked well. So what I did on Miss Ashley II was make elevator extensions of balsa with tape on both sides to make the elevators 3/8" longer and increase the total movable area. That worked like magic!

At the Hampton meet, no fewer than 10 pilots flew Miss Ashley and gave me feedback on how it performed. Then I found out how to make it even better: I took out all the tail weight. Bigger elevators and more forward CG were a nice trim combination. I think more elevator travel worked to a point, but then making the elevators physically bigger worked even better. I'm going to try this on other ships in the future. Rich Oliver also tried it on his new ship. It's a very non-permanent experiment you can do without losing your "Square One." If it's not helping your setup, use a hair dryer to warm the tape (a John Brodak tip) so it won't pull up paint.

- **WINDY URTNOWSKI**



Ron King

Welcome to the Safety Column. My name is Ron King and I am the new Safety Editor. Before we get into the meat of the program, let's get the "who are you and what are you doing here" stuff out of the way.

My wife and I live in the Northern Virginia suburbs of Washington, D.C. My undergraduate degree is in Communications and I spent the early years of my professional life in motion pictures and television as a writer and director. After burning out in that field, I spent a few years working as a deep sea diver then realized I would probably live longer doing something else, so I went back to school and earned my graduate degree in Computer Science. I am now a computer geek with an engineering background, and I do Research and Development work for the government.

My control line career started in Tulsa, Oklahoma in junior high school with the help of the venerable Glue Dobbers. I switched to RC after college, but always had that love affair with control line, especially those big, beautiful stunts. I often

SAFETY

took detours from RC to build and fly CL ships through the years. My original 1977 Twister is still going strong, as is my J. Roberts Bearcat. I first joined PAMPA in 1976 and maintained my membership as often as time and finances allowed.

In the full scale field, I own a Cessna Skylane and hold a Commercial Pilot's License, with SMEL, seaplane, and instrument ratings. I am also a CFI, CFII, and MEI and hope to pursue flight instruction as a retirement career soon. Forgive me if I occasionally lapse into "CFI speak".

Because of the extensive diving and flying, I have been allowed to see our planet from several different perspectives and it has increased my joy at the wonder of our existence. Surviving and succeeding in these two passions has also taught me to think of SAFETY FIRST.

If you spent any time in the military, or its equivalent, you heard this one every time there was a special briefing: "Who is responsible for safety?" The correct answer: EVERYONE of course. It's true, each and every one of us is personally responsible for our own actions and contribute to our own safety. An interesting corollary is taught in the diving industry: "Your mistake may not hurt you; it may kill someone else." Be aware of your environment. Please consider how your actions and your activity affect those around you. Safety awareness is not always learned in the classroom. Many times, the lessons we learn are painful.

This column should coincide with the beginning of the flying season and many of us will rush out to the flying field to start trimming our latest creations. Therefore, today's

topic is: Flying Alone. I am not anti-social, but I have learned that to get a plane trimmed and set up correctly, I have to make a lot of test flights. Many of these are done alone with the help of a launching device, commonly called a "stooge". I built my stooge in high school and it still works well. Over the years, there are several rules I have developed to help me have fun and still get home for dinner:

1. Develop a Routine - I have a specific routine I follow before, during, and after each flight. This routine (or mental check list) is designed to get the model attached to the stooge, fueled, and launched safely each time. After each flight, I retrieve the model, check it over, wipe it down, take it back and hook it up to the stooge. Then I walk, check, and straighten all the lines, and check to see if everything is ready for the next flight. If I have any interruptions, I go back through my mental check list to make sure I haven't forgotten anything.

2. Securely anchor your Launching Device - My circle is located in a grass pasture, so I use two long stakes (borrowed from old RC Sailplane High Starts) to anchor my stooge. If you fly off concrete, I would suggest a heavy steel plate, such as the one provided by Tom Morris. I have used drywall screws to fasten my stooge to asphalt. The power of the engine may not be enough to move the device, but you must also consider

the pull of your release as well. If the device moves, it could jam, or release the model incorrectly.

3. Use a breakable Release Line - Some guys use old control cables for their release. I do not recommend this for two reasons: 1) Visibility - you should be able to see the line as you walk out to the center of the circle, and 2) If you ever get tangled up in the release line, you want to break it before you lose control of the airplane. (Don't ask me how I know this - just count the knots in my line sometime!)

My release line is plain white cotton. I use an old free flight A-2 glider winch to store it. The white color helps me see and avoid stepping on the line as I walk to the center.

Typical stooge mounted on a plywood base, anchored with two steel stakes into the ground. Release line is cotton twine stored on FAI Models tow line reel.



4. Neatness counts - In addition to the routine you develop, try to lay everything out neatly. Your

release line should go to the same place every time; ditto for your lines and handle. You do not want your attention divided by straightening and untwisting lines as you walk out to the center of the circle with the engine running. That should have been done beforehand.

Be sure to remove your starter and battery from the path of the plane. This sounds simple enough, but just imagine walking all the way out to the center of the circle, then turning around to discover your starter or glow plug battery still sitting squarely in front of the plane. It has been done before.

5. Double check the model before starting - If you ever hand propped a full scale Piper J-3 Cub, you learned to always push against the plane to see if the brakes were set. With the model, I always pull it to see if the tail hook is set in the stooge. Trust me, there is always a moment of uncertainty when you start, then let go of a big high powered stunt ship aimed at your nether region.

Alouette stunter, hooked to stooge and ready to start. The model weighs 65 ounces and uses a RO-Jett 76 for power. I use a heavy duty line clip attached to the tailwheel strut to hook the model to the stooge. It's removable for contests and replaceable

when worn.

6. Hold on to the Lines - After that engine starts, you want to be



connected to the model as much as possible. I take the time to remove and stow my starter and battery, but then I grab the control lines at the wingtip and keep them in my hand as I walk to the center.

7. Know which line is the DOWN line - If the model releases before you are ready, holding the down line should cause a nose over before the model gets airborne. This should also happen before there is enough force to hurt your hand. I have had one inadvertent release in all these years and the model just flipped up on its nose, quickly killing the engine.

My inadvertent release happened when I stepped on the release line. Yes, even though I use white line so I can see it, I still managed to step right on it. Bummer. Treat that line like a live electrical line. Stay away from it until you are in the center of the circle and ready to fly.

8. Be Prepared for an accident - The Boy Scout's motto is very appropriate for us. I carry a decent first aid kit in my truck and know that my local Rescue Squad is less than 1/2 mile up the road. As I fly alone in my horse pasture, I constantly remind myself what to do if something happens. It's a risk I am taking and I must be prepared. In this day and age, it makes sense to carry that cell phone and it

makes sense to tell your wife (or someone) where you are going, what you are doing, and when you expect to be done.



Fortunately, the only model aviation accidents I witnessed happened with others in close proximity. Thus, we were able to quickly render aid and get the injured person to the hospital.

These safety tips merely follow the patterns I have developed through the years. Feel free to augment these rules as you develop your own safe flying routine and please share your safety ideas and tips with the rest of us.

As mentioned at the start of this column, I consider myself to be

the editor. If you have ideas, hints, or topics please take the time to write them down and send them to me. Or give me a call with your story idea and we can work it out together. My address and phone number are listed in the PAMPA Reference Manual.

Model aviation has been a wonderful hobby/sport for many years, but it is only fun if you do it SAFELY.

Fly Stunt Safely.

Ron

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Scott Richlen

As your new Clubs editor, I'd like to use this first column to do three things: first, to talk about my expectations for the column and what I would like to do as editor; second, to invite you to participate in this column by sending in your contributions; and third, to tell you a little about my background and through that to give you an idea of why I think that clubs are such an important ingredient of our hobby/sport.

First things first. I think, looking back at past issues of Stunt News, there really hasn't been enough written about clubs. Once in a while there was a picture or two or a story. Not the fault of the editor, it was just that there weren't many submissions. In fact, on a number of occasions the Stunt News Clubs column was something that I had written in our club newsletter and that Tom Morris extracted and used. By the way, our club, NVCL, has deep roots with Tom as he had been stationed in our location years ago and was and is fast friends with our current (and many times in the past)

CLUBS

President Dick Houser. But why talk about clubs in Stunt News when this is the communication organ of an organization created to support Precision Aerobatics (is it okay if I also call it Stunt now and then?) and focused on the competitive aspects of that activity? Simply put, one of the things that can be a tremendous (and maybe overlooked) support mechanism to strengthen and broaden participation in Precision Aerobatics is the model airplane club. In fact, it doesn't necessarily have to be a control line club, since I understand that even some RC clubs have active control line stunt flyers. But it probably helps! So that's a big part of it right there - the answer to "How do I get connected into stunt?" Well.... find someone who flies stunt! And often the easiest way to do that (especially for a person not already connected to PAMPA and the Precision Aerobatics event) is through the local control line model airplane club. But here's the problem: of the 2,450 clubs listed by AMA, only 75 are control line. "Oh-oh! Houston, we have a problem!"

So here's my logic for why clubs are critical to PA: clubs are both the source of flying fields and can be the nursery for our future Walker Cup winners. If I'm "Joe Stuntguy" and don't have a place where I can regularly fly, I'm not likely to become a very good competitor, in fact, I may drop out altogether. Nope, not good. But if I have a club helping me, Joe Stuntguy, find a flying field or if they already have and maintain one, "oooh! life is good!" And if I am a wannabe "Joe Stuntguy," where am I most likely to find the resources (as in mentor/coach) that I need to be able to build a contest-

grade stunt ship and improve my pattern? Clubs are a tremendous resource for those of us who fly in the stunt event. The more clubs there are, and the stronger they are, the more likely our event can grow in participation and fun.

So, how can we use this column to support club growth, both in strength and in numbers? There are three things that I would like to use this column for:

- Highlight the precision aerobatics activities of the various clubs; not to report contest results, but rather as a discussion of the challenges and issues a club faces when it steps up and offers to host a contest. How did you get everything arranged, how did you get the necessary number of volunteers, how did you manage to get sponsors (and their associated prizes?), etc.

- Describe the activities a club can do to stay "vital". What are your flying site success stories - how do you go about finding and locking in a flying site for your use? What do you do to nurture your up and comers? Do you have a "juniors" program? How did you start it, how do you conduct it? Do you run club contests or events and how did you set these up? What about stunt clinics - if my club were to host one what are the things we need to do to set one up? Do you offer a building program or regularly schedule building demos (e.g., how to mold a cowling)? Where are the sources and resources for club activities? What has worked for you?

- Encourage the formation of new clubs. How did you start a new club? What should "Joe Stunt-guy" do to start a club? How do you get the connections and the resources to get a club going?



Well folks, lots of opportunities for us to share and help one another when it comes to clubs. From my experience it has been well worth it. I am a member of an active, energetic club with a flying field (its on Federal property and if you think it looks good now, wait until you see it 5 years from now!), a control line hobby-shop (!), annual events (every fall we sponsor the Walt Musciano Commemorative), strong outreach activities (last fall for the 5th year we flew demo flights and offered flight training to kids at the Dulles airports annual "Plane Pull for Special Olympics", and we have a large (~45) and growing membership.

I hope that you will consider contributing: this column will live, or die, depending on the input it receives. But, I do ask one thing: that you contribute based on actual knowledge or experience. For me, one disappointing aspect of going on-line for advice is that you are often offered opinions of what might work rather than actual facts and experience. I hate having to sort through advice to determine which is from people who really know what their talking about and those who don't. Please give me real stuff!

Okay, enough about this other stuff, what about me, me, me? (Sorry, I just couldn't resist and I always laugh when I hear that one country song with the line about "enough about you, now let's talk about me....")

I was born in a log cabin...oh wait, that's not it. Let's try again...serious this time (John, stop laughing!)

I think that the earliest remembrance I have of model airplanes was when I was of kindergarten age or maybe younger. We lived in Ames, Iowa at the time and my dad had an office in "Dog-Town" on the campus of Iowa State University. There were a lot of open fields between Ames and Dog-Town and my dad stopped one day to watch a bunch of people flying model airplanes. I still remember that.

I always was interested in airplanes as far back as I can remember. Dad always watched "Victory at Sea" being a Navy veteran and having flown as the radio-man/navigator in Grumman Avengers (which he loved) and Curtis Helldivers (which he hated, said they were held together with bailing wire). I always watched it with him. Still love the Richard Rogers' soundtrack. I used to get him to make me little drawings of his airplanes. Probably in second or third grade I started building plastics. My favorite airplane was the Douglas Skyrocket. Of course, it wasn't long before my brother and I were taping string to one wing-tip and spinning around to make them fly. Every once in awhile the tape would let go. If it happened during one my "high speed dashes" things got sort of interesting.

In fourth grade we were living out in the country, east of Portland, Oregon and I had saved enough of my dime-a-week allowance and strawberry picking money to go to the hobby shop in Gresham to buy my first "real" airplane: Scientifics' Stunt Master (designed by none other than my hero Walt Musciano.) My mother was somewhat unhappy ("you boys should be saving that money for college!") My dad just

chuckled. Oh yeah, my brother bought the Scientific Stunt Trainer. There was no one in the area that we knew of who flew, so my brother and I had to teach ourselves. We flew in the field next to the barn. Dad cut up a great big moving box for us to take-off from (I wonder if he had a name for our cardboard carrier deck?) My brother and I then spent the whole summer learning to fly. We just kept starting, launching, and crashing. Oh those nasty little nylon props on Cox .049s just chopped our poor little fingers to smithereens! And then we would get fuel in the cut! Ow! Ow! I can still remember what a huge victory it was when I managed to complete one lap!

In fact, most of my flying life was outside a club. Happily I had my brother to fly with and sometimes we would find another flying buddy. But clubs were few and far between (I did belong to a club in Junior High, but more about that sometime in the future.) In fact, I never learned the complete stunt pattern or entered a contest until I moved to Northern Virginia and joined the NVCL. One of its leading members, Dick Houser, almost immediately took me under wing. It wasn't long before he took me up to the Edison, NJ contest to enter as a beginner (I think I scored somewhere in the 70 to 90 range!) and I quickly realized you shouldn't run your engines leaned out and make your loops as small as you possibly could! My learning curve for PA started with my joining NVCL and most of the progress and fun that I have had has been due to my membership. I cannot imagine that I would have been able to build the planes I build and progress through beginner, intermediate, and advanced without the support of



membership. I cannot imagine that I would have been able build the planes I build and progress through beginner, intermediate, and advanced without the support of the members of NVCL.

Here is something else that I learned along the way that I think is very important: because for so many years of my life I was never around a large contingent of control line flyers, I always made due with the CL fliers that I could find. I soon learned that no CL flyer is "expendable." If I wanted to have a flying partner, other than my brother, I had better learn to get along, bite my tongue, and find something good in that fellow who would launch my plane! Something to think about.

p.s: I'll try to get a picture of me for the top of the column in next issue. For those of you who are really wondering what I look like: picture, in your mind, Tom Selleck. Nope, don't look like that at all!

Garden State Circle Burner News for 2006

The Garden State Circle Burners have elected a new president: Expert flyer Mike Cooper. Mike has taken several exciting steps to expand the club's schedule. There are several people in the area that have served as judges at the National Championships. They will head a panel led by Les Demmet discussing judging and the recent changes to the rule book. This event will be held at the New Jersey Aviation Hall of Fame and Museum in Teterboro on Friday evening, March 10th. There will be a \$7.00 admission charge for non-

GSCB members. Coffee and soft drinks will be served.

The annual Awards Banquet is scheduled for March 26th. Flyers from all over the area attend this event and it is a great time.

The Executive Committee met and has decided unanimously that there will be no B.O.M. or appearance points awarded at any GSCB Stunt event this year, and that all Old Time Stunt events will use PAMPA model eligibility and GSCB scoring. It is felt that these steps will be the most inclusive and that they reflect the actions of other local clubs. Photo plaques will be awarded to at least three places per class.

The Circle Burners host four major stunt contests annually. The ALL PROFILE Spring Air Show will be held on June 4th. Profile Stunt will be flown, along with Profile and Fun Scale and all Navy Carrier classes. The GSCB June Stunt Contest will be held on Sunday, June 25th. Four skill classes of Precision Aerobatics as well as OTS, OTS II (flapped OTS models only), and Classic Stunt (by skill class) will be flown. The Reinhardt Cup Fly Off will take place as well. The Fall Air Shows will take place on Sunday, October 8th and Sunday, October 15th. Part I will feature Beginner Stunt, OTS, OTS II and four classes of Classic Stunt. Part II will feature Sport and Profile Scale and Navy Carrier as well as Intermediate, Advanced and Expert Stunt. Pilots meetings for all events will be held at 9:30 sharp.

The GSCB Swap Meet / MECA Collecto and STUNT FORUM will be held on Sunday, November 19th at the P.A.L. Hall in Wayne New Jersey. This event is a big hit with flyers of every type. The 2005 event featured an Electric Stunt Forum led by Mike Palko, Bob Hunt and Dean Pappas. Videos of this event

are available for only \$15.00 with the proceeds going to the club.

We hope that you will join us if you are able. Our well kept grass field features concrete take-off ramps and center pads and we have two sun / rain shelters as well as good parking and a clean porta-potty on site. Please check our web site: www.gscb.us or telephone (201) 669-2605 to verify times and dates





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Only bark-eating hermits with yam-level alertness are unaware of the current, revived interest in stunting twins. Early U.S. stuff, e.g. the "Trixter Twin", deBolt's "Twin" and Consolidated's "Twin Terror", are well known, as is the 1959 U.S. Nats entry twin. But as usual, there's a dab more to the story. So, for historical interest and hopefully inspiration to design a simpler, Beginner's level twin, here's a sample of some early, flapless, English stunting twins.

From 1951, comes A.E. Burch's

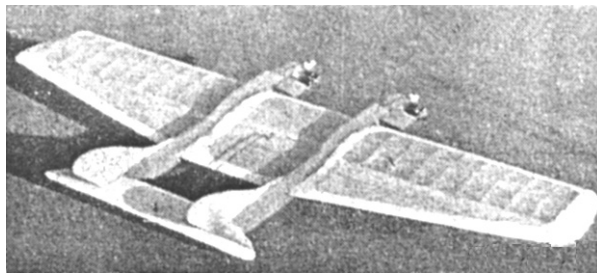


BEGINNING - Some Early Brit Stunting Twins

twin .09 diesel-powered design called "Genie". It sports a 40" span with 300 sq in of area. At a very light 28 oz, the wing loading is 14 oz/sq-ft, while the stunting speed is 46 mph. Note the ultra-high aspect-ratio tail.

From 1952, comes J.B. Moorhouse of the Lockwood Model Airplane Club with his "Gemini" design which is also twin .09 diesel-powered using Elfins. His super sleek red and silver, 36" (?) span stunter

Presumably, less prop pitch, more blade area and diameter would

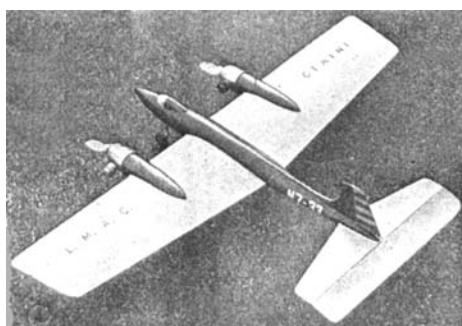


slow things down somewhat.

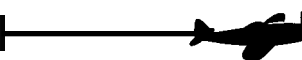
Both Burch's and Moorhouse's twins are legit OT stunters of course. (This is mentioned in case any retired dentists in the Austin, Texas area are interested in building one - Jim! Hint, hint.)

From 1959, comes N.Y.

Heywood, age 14 and pal R. Cleminshaw, age 15, both of Cottingham in East Yorks. George Alderich would be most pleased to see this variation of his Peacemaker, now a twin, with 54" span. It follows Peacemaker proportions, but uses increased trailing edge area. The whole rig, with a pair of AM .25 diesels, weighs a mere 40 oz! As said many times before, models intended for one type of flight can become reasonable, lower-level stunters with alterations.



also has 300 sq in of area, but in a lower AR layout. Moorhouse's design is also light at a mere 30 oz. The flying speed's a surprising 75-80 mph, which should generate potent line tug for this smaller rig. No line length is listed and I fear that lap times will be a bit much.





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Watts up, everyone!

No doubt, most of us are building during these months. I like building time because it gets me pumped and anxious about the next flying season and contests. It is always fascinating to see what everyone has been up to and to see his or her creations in the Spring. I'm working on a Gieseke Nobler for Classic events. I'll be using either a Mega or AXI brushless motor in it, with a 3100 to a 4000 mah LiPol 4 cell pack in it, depending on how efficient I can get the system to run, and how light I can make the airframe. I'll let you know as I progress. David Chan from Woburn, MA is doing a exquisite job on a take-apart electric Oriental, in the Chinese fashion (wait a minute; Chan, Oriental, Chinese; is there any similarity there !?) He works with Bick Brannen, a genius in his own right, who also builds beautiful take-apart airplanes. He also owns a company that builds world class flute instruments, played by renowned classical players around the world.

David works with Brick, so they have honed machinist skills and used those skills in creating these stunt ships. David sent me digital pictures on the project. We'll get him to do a write up about it all and share it with you here in Stunt News. His airplane will be flying by the time you read this article

In this issue, we decided to highlight the efforts of Mr. Walt Brownell, who worked for many years as an aeronautical engineer and has a vast knowledge of aircraft design. I consider him one of the true pioneers in control line electric flight. Several of us have independently reached similar conclusions concerning electric power train choices and have converted existing stunt designs to electric. That's one thing. What Walt Brownell and Mike Palko have done, and what Bob Hunt is currently doing, is, designing airframes specifically intended for electric flight. That's another. Doing so is an important part of this progression into electric flight because it is the start of design ideas to take advantage of electric characteristics, over gas. For instance, as you probably know, airframes can be built lighter because there is less vibration. You do not have 10,000 mini explosions per minute to rattle the ship to death as gas does. There are other advantages having to do with center of gravity weight distribution and gyroscopic tendencies that we are just starting to understand. All this translates into smoother and better flight characteristics. Flights are more constant. I dare say that those of us who fly electric will improve

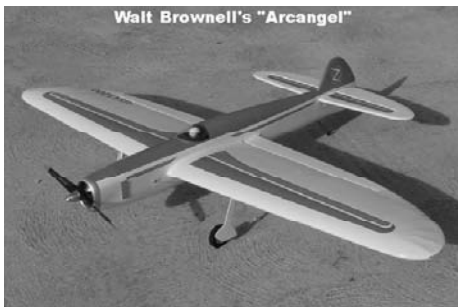
faster with each practice session (over those who fly gas) because the airplane flies the same with each flight. My ten practice flights per day will be consistently the same - all ten. And my airplane will fly exactly the same on the next day, without any adjustments at all. That's just the way it is. If it were a gas-powered airplane, maybe it would take two or three flights to get it right because of temperature change or humidity or some other variable. Maybe the nitro blend is not quite right. Maybe dirt in the fuel, or plug problems, or vibration problems. Maybe prop problems, because the air has changed, and the engine is not as powerful, or more powerful - whatever. I see it all the time. Some like that challenge, but sometimes you've got to call it for what it is - frustration, and a waste of valuable practice time, if you do not get it right quick enough. Hey, I've flown with a gas ship on a Sunday morning, and sometimes I never got it quite right. I lost a whole day of practice and went home scratching my head about what was wrong. Come on, you've had those days, you know what I'm talking about. We all know times when someone did not even place in a contest because of a problem related to drive train issues. The ship flew, but not quite right, it was not quite in the groove. It has a groove, but you couldn't get to it. Do you know, I have had very few problems once I got the electric power trimmed to where I liked it. If you charge and balance your battery pack carefully and consistently, you will have constant predictable flights time and time again. That's not



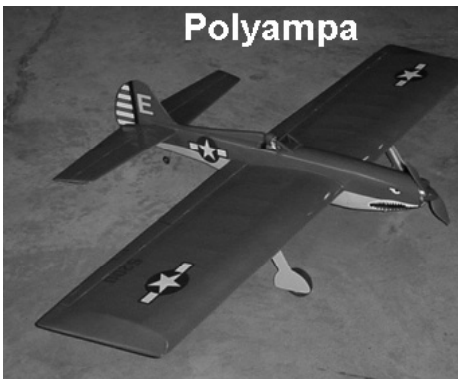
frustration - that's FUN !

So let us listen to Walt Brownell, and his experiences in electric flight, and his explanation of the design and flight of his beautiful ship, :the "Arcangel"

The ship I flew at the 2005 Nats, "Arcangel", was my second electric stunt design. I learned a lot from the first "Polyampa" stunter. It used a conventional Mega 22/30/4



brushless motor and an 11.1 volt

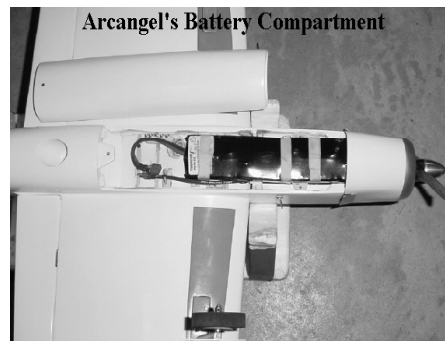


Thunder Power 4200 mah battery . It flew the complete pattern at 49 ounces. It used a 12X8 prop and pulled 29 amps. It calculated out at 100 watts / lb input. After talking to Mile Palko, I decided to use 14.8 volts on my next design and shoot for 125 watts / lb.

The power train I chose was an AXI 2826/10 outrunner motor with a Thunder Power four cell 4200 mah battery. My first design objective was to provide adequate cooling air flow for the motor, battey and ESC (Phoenix 45) in

a nice looking package. Another challenge was to provide easy access to the battery for removal and to connect it to the ESC at the last minute for safety. I also wanted an external manual switch to start the timer.

Arcangel needed a wide and deep fuselage to carry the power pack. It was sized to carry either a Thunder Power or Polyquest battery with 14.8 volts and 4000 to 4400 mah. Clearance around the battery was needed to make sure cooling air would flow over the battery with minimum restrictions. The wing airfoil was chosen from free computer plotted NACA airfoils. The root rib was 16



percent (1.9" thick). The tip airfoil was 19 percent thick (1.6" thick).

The French stunters at the World Championships impressed me. It appeared

to me that their models had semi-span flaps, used smaller than normal stabs, with larger than normal elevators. This prompted me to use flaps that were 38 percent of Theoretical span (13% of theo.area). To keep the tail light a 22.12" span was used with .38" L.E. Tips and spars, with .25" T.E. The theoretical area was 20% of theoretical wing area. (114 sq. in.). The elevators included the full tip shape (55% of theo. area). The distance from CL flap to CL of

elevator hinge was 15.75". The aft CG limit was set at 22% of MAC which was 6.6" fwd of flap hinge. These parameters gave me as small a tail as I was comfortable with from previous designs.

The covering was medium silk span with all Brodak dope used. I wanted to put on a nice rubbed out finish, and this system was something I was comfortable with. This cost a few ounces of weight over using light weight plastic or

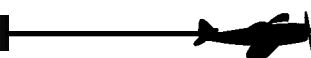


polyester covering but I have only used that a few times and was not sure of final results.

One of the important things when you design an electric stunt ship is to take advantage of the reduced Radius of Gyration that happens when you move mass closer to the CG. The result is that your ship will turn better with less overshoot if you do it properly.

The location of the motor was chosen to be above the centerline with the battery below as little as possible. This would allow the vertical CG to be close to the bellcrank CL. The horizontal CG should be obtained by moving the battery for or aft using no extra weight.

I selected an open mouth P-47 type cowl and good internal air



flow to a flush hole in the belly for air to exit. I used a semi-elliptical wing with 570 sq. in. and 53 inch wing span. To keep the tail light, a built up stab & elevator was used. Molded skin was used for the fuselage and cowl. The removable belly was hand carved. The battery was mounted using taped on lugs and screws to withstand the G loads.

My target design weight was 52 ounces, but I overshot by 3 ounces. Flying weight with tip weight was 55 ounces. To select props with the best chance of success, I used a combination of Motocalc7 s/w program and bench test using a Astro-Flight Wattmeter to measure static power, amps, volts and milliamp-hrs used. After much testing, I found the best starting point. Arcangel was fitted with an IIX6 CAM Graupner graphite prop which turned 10,500 rpm static, in my basement, and drew 33 amps. This prop would run for 6 minutes with no overheating of the battery, and all the other electronic components.

Now, we were ready for the first flight. The pattern was flown easily but a little too fast. The prop was de-pitched to 5.5 inches and practice for the Nats began. The

ship flew a nice pattern with a fairly good corner. The overhead figures all had good line tension. I was a happy camper, but not a great pilot at age 72. The timer used was a Sergio Zigras CL first version. I set the timer to cut off at 6 minutes and 8 seconds and it worked perfectly on all flights. I only used 2 batteries for practice flights at the Nats. The battery was a second generation Thunder Power and weighed 12.5 ounces. Now I have two more improved Thunder Power 4s-4000mah batteries that have lower internal resistance and can deliver higher amps continuously. Currently, I am bench testing 3 blade graphite props to find a better flight pattern with a little more power and no increase in speed.

I am retrofitting my classic NAKKE ship with electric power (same power train) to see if it will perform as well as it did with an O.S. .40 front port. I am currently "dreaming" about my next project: a twin electric stunter that could be competitive in PAMPA events without pulling my arm off. I plan on 62 ounces with 660 sq. in.

Walt Brownell

Thanks Walt for those thoughts

on your beautiful airplane! I would love to fly it ! I told Walt he should put plans out on this design so others could build it - like me !!! He said He'd think about it. Twin motor is something I'd like to do too. I'm working on it. Electric propulsion will not be the problem, there are plenty of electric motors to chose from, and several different choices would be equally good. I'm just thinking about which airframe.

In the next issue I'll be talking about some instruments and tools that we use in helping us make decisions on which motor, which battery, which prop to use. That will be March, and most of us will be trying to fly again, if March winds are not too restrictive. If you would like to talk about electric flight, or have questions, you can reach me on my cell phone @ 508-272-1060 or you can E-mail me at wmflyelectric@verizon.net

Fair winds and good weather to you all;

Will Moore.



BALL DIAMOND FLYER



Jim Harris

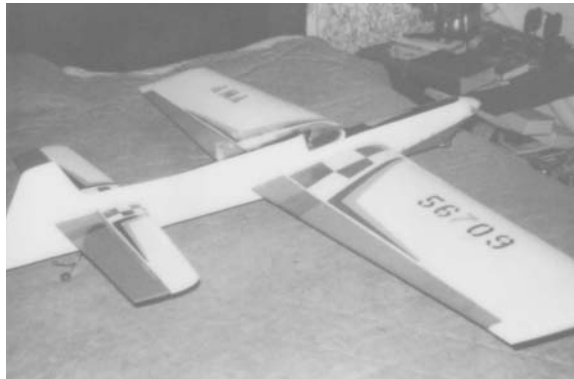
This major effort by the Sig Company was aimed at the Expert-Advanced group. It is no longer in production. Too bad because this was a very good airplane. I built two. I changed a couple of things on mine. I have seen quite a few of these at contest and they are very competitive at any level.

My life long friend Pat Giles built the first one I had any direct contact with.

Pat is more for trying new things than I am. Anyway Pat bought a kit. I was somewhat skeptical at first, with that big foam wing. As it progressed I got more enthusiastic; the wood was pretty good. Pat covered it in MonoKote and it looked good. Light blue with rainbow colors for

trim. A new ST.51 for power with an R/C tank plumbed for stunt. This combination worked right off the bat. Pat and Clyde came to Marion for one of the first flights. The prop was a 21-6 BY-O. We flew off the Pleasant School Ball Diamond (what would you guess). The first flights was too rich, lap time was almost six seconds. Even so the plane flew the entire pattern without allowing around.

The square Bights were not sharp, but I was impressed. When we got the needle right this thing could really fly. Pat flew this at the Nationals (Intermediate) one year and came in third. Not bad for a guy



that does not practice much. After that I had to have one.

I tried to duplicate exactly what Pat had done. I did however change the gear to body gear and used a Smith Tank. Mine flew great too; but I could not get the great 4-2 runs on the ST .51 Pat had. This has kind of been the story of my life. I wound up with three head gaskets, a 12-6 prop and about 65' lines. I use 10% fuel.

Mine was done with metallic green MonoKote featuring silver blue and red trim. The picture is of this plane. I sheeted the foam wing using 3M spray glue. I have had better results

using this than anything else. I talked to Windy Urtnowski about this plane and he and I agreed that the only real criticism we had of the kit was the nose construction. That big long cowl is not good. It does not keep the nose stiff enough and may affect the engine runs. I think this was part of my engine run problem. If I were to build another I would completely change the front end to a very small cowl or maybe none at all.

As for weight mine were kind of heavy around 60 oz the kit for this. I could have used a lighter body gear and I think 55 oz. is doable.

Since there are no more kits try scratch building one. Torn Dixon has plans. One of the flyers I know built Dixon's Magnum Plus and powered it with a ST .60. It flew great. Last fall at the Cleveland Ohio meet there was a guy who flew a Magnum (kit I think) with an L.A. 46.

This plane looked light to me and it flew just great. Also it was doped; but it looked like only a very few coats. If you can build really right try the L.A. its really a great engine. I have a couple..

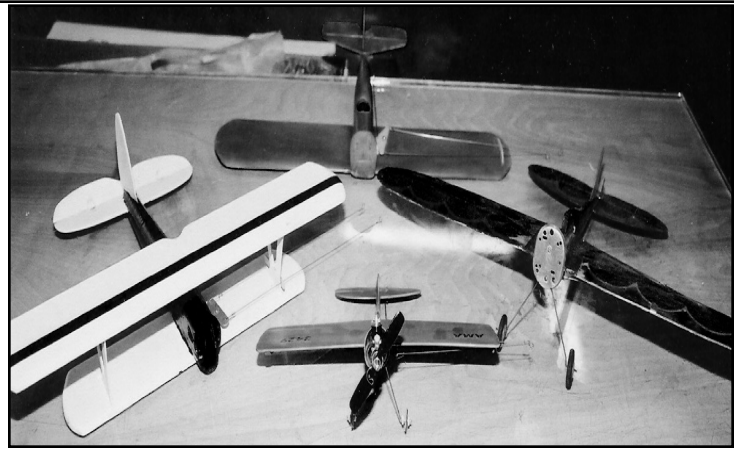
I believe that Todd Lee's airplane is based on the Sig Magnum. Considering the success he has had with that ship, I would say that is a pretty good endorsement. Maybe some kit manufacturer can bring this design back; it is important to have a first time pro-ship kittcd.



PERSONALITIES

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gentlemen, how can I be of assistance to you?" bellows from a grinning figure behind the table. "Yes" says I, "I am looking for Mr. Ty Marcucci". "Signalman Chief Marcucci at your service, Sir". We had just had the pleasure of meeting Ty Marcucci.



Here are just a few of the 1/2As in Ty's collection. I spy a Fire-Sir". We had just had the pleasure of meeting Ty Marcucci.

marriage, five grandchildren, and one great grandchild. He has had the privilege to be able to teach two of his grandchildren (Ryan and Jennifer) how to fly C/L.

Ty Marcucci and Rollin Kessler were the C/L enthusiast who had organized the event. It was not a contest, but a gathering of local C/L fliers who loved the sport. Cliff and I spent the rest of the day getting to know Ty and his group. We had a ton of fun. I

Way back in 1948 was when Ty started his love affair with aeromodeling. It was his father who first encouraged and helped him with his building. Powered free flight was his first interest, then into combat and carrier. Ty's main interest is now precision aerobatics, but, he still dabbles in powered free flight. His favorite C/L model is the Cobra, least favorite is the Sterling Ringmaster. He says the Ringmaster just never was aesthetically pleasing to him. Favorite power plants are the ST G2I 46 and the OS LA .46. Least favorite power plant is the famous Fox 35, although he does admit to owning six of them.

Ty's most memorable moment in aeromodeling was in June of 1968. Flying an Ares he accomplished flying his first recognizable pattern. Currently Ty has been competing in Intermediate. His goal is to move up to Advanced and I expect to see him there soon Ty, in 1968, I was only in the third grade. I can,



Ty with his ARES (Ambroid kit) Brodak .40. Although you cannot see it in this shot, Ty has 28 models RTF hung up in his shop.

In October of 2003 my good friend Cliff McNabb and I had learned of a C/L Fun-Fly that was being held in Huntsville, AL. We both had been wanting to meet other C/L enthusiast and to have a chance to see others fly. We decided to make the trip and took along with us our kit built models and newly acquired ARF Nobler and Flite Streaks. Upon arriving at the flying site we proceeded to the sign in table to make our acquaintances. "Hello

wish other groups would host non-competitive Fun-Fly events more often. Well, since that day I have had the pleasure to meet up with Ty at numerous contests and have never failed to enjoy his company.

Ty was born and raised in Northern Nevada, spent a career in the Navy living in 11 different states, but has now migrated to the Deep South to live with his wife, Mary. He has 3 children from a previous

however, remember when I first flew an entire recognizable pattern. Probably recognizable to only me, but a pattern none the less. It is a great feeling remembering personal aeromodeling milestones.

Current building projects include the Skylark and a 660 Caviler. Ty loves to build and it shows because in his hangar there are 28 models ready for flight. Other than building, Ty most likes meeting people with similar aeromodeling interest.



Ty is quite the builder and finisher. Here is his Oriental (from kit) and Caviler (scratch built).



When you see Ty at a contest you will know what I mean. He loves interacting with people. His only disappointment with aeromodeling events though, is the lack of sexy cheerleaders. Oh well Ty, that interaction, I am afraid, would only cause distractions that could be detrimental to your recognizable pattern.

Other hobbies and interest include HO model railroading, collecting model aviation magazines,

and collecting plans. Ty's plan collection is up to 109, if you have any plans to trade, give him a shout.

Since Ty lives in the South East you will see him at most contest in that area; however, he does try to make it out to VSC every year. Now I must warn you. I did mention that Ty loves interacting with people. When interacting with Ty be prepared to take a seat and be entertained with stories that range from A to Z. Yes, Ty is a talker; however, I have found all his stories to be plausible and believable. Meaning, Ty may talk a lot, but his words are rich and full of history. Listen for as long as you can and then excuse yourself to take care of other priorities if you must, Ty will not be insulted.

Ty loves the old designs and loves flying OTS. Here is his Veco Chief from a 1949 kit.

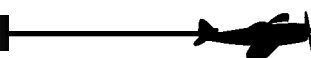
The first contest I ever attended was in Marietta last May. I did not



Ty loves the old designs and loves flying OTS. Here is his Veco Chief from a 1949 kit

know what I was doing or how I would fit in with everyone else. As luck would have it, Ty was there and assisted me with all my flights. He is a great pit man and with his help I was able to earn 1st in Intermediate. Thanks Ty!

Yes, Ty loves C/L, people, and life. Good luck Ty, Advanced is just on the horizon!



SPORT FLYING



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My, doesn't time fly when you're having fun. I have been real busy in the shop and the Skylark is complete and ready for trim flights as we speak. This was built from plans that Ed Southwick gave me at the VSC in 2003. The numbers are 580 sq. inches, Brodak .40 and an 11-5 Zinger Pro prop. It weighs in at 48 ounces, which is about four ounces more than I was shooting for but I don't think it will be too bad at that weight.

We sometimes get into a situation, which only is funny from the perspective of a few years back. James Hall wrote me a nice letter and included this story. Seems when he was a young man all-full of stuff; he went to visit his sister and brother in law. Just so happens he had a Ringmaster in the back seat of the car and after some catching up on family stuff some friends of said brother in law came

by and saw the plane. They had never seen a model plane before and ask if it really would fly. Well, not being one to miss an opportunity to show off a little, James suggested the happy group proceed to a cow pasture type space that was near the house. With great care the Ringmaster was fueled and the ol' Fox started after very few flips. Now to dazzle the audience. Being so engrossed in making sure they were being impressed by his expertise, James didn't notice the row of honey bee hives which were along the fence line about 70 feet or so from center circle. He did however notice some "horse flies" buzzing around and swatted a few. Oops! Glancing in the direction of his fans, he noticed them beating a hasty retreat to the home place and the bees were now stinging in earnest. He belly landed the Ringmaster and took off for the house about 75 yards away. Fortunately for James

now with a smile on his face but the thing he remembers most is that the only flying the folks were talking about were the bees and no one volunteered to go back and help him recover the Ringmaster. To this day he can spot a string of beehives a mile away.

In Texas, we have a saying that the "...first liar doesn't stand a chance". When I was about 13 or 14 my grade school teacher knew that I flew models. Mrs. Melton asked if I would bring one to school and fly a demonstration for the younger kids. Now, what red-blooded boy would pass up that opportunity? On the appointed day I brought my Super Clown powered by a Fox .19 to school and enlisted the help of my younger brother to launch for me. The teachers (grade 1-3) had assembled all of their charges along the baseline of the baseball field and the show was on. With

some coaxing the Fox finally started and I moved to the handle. With as much aplomb as could be mustered the launch signal was given. Off into the wild blue yonder. No sooner had the plane reached about 15 feet in altitude than all of the kids came rushing into the circle to get a better view. Frantic waving at teachers drew nothing but smiles and return

waves. None of them had ever seen a model plane and didn't realize



Skylark is painted to match the colors and design that was on the Sterling Kit box

the bees decided to quit stinging and he made it with minimal pain and suffering. James remembers this



the danger. Fortunately I was able to just stay high enough that none of the smaller kids could reach the lines. When it finally ran out of gas, I held it off as long as I could and landed/stalled into the crowd. Didn't hit anyone and the kids all gathered round the plane but didn't touch or step on it. Scarred me to death but thank goodness no one was injured. The teachers thought it was neat and asked if I would do it again but I told them I didn't have anymore fuel and got everything put away ASAP. Valuable lesson here. I have flown demos many times since but always made sure the sponsors were aware of the dangers and there was plenty of space between the flight circle and the spectators.

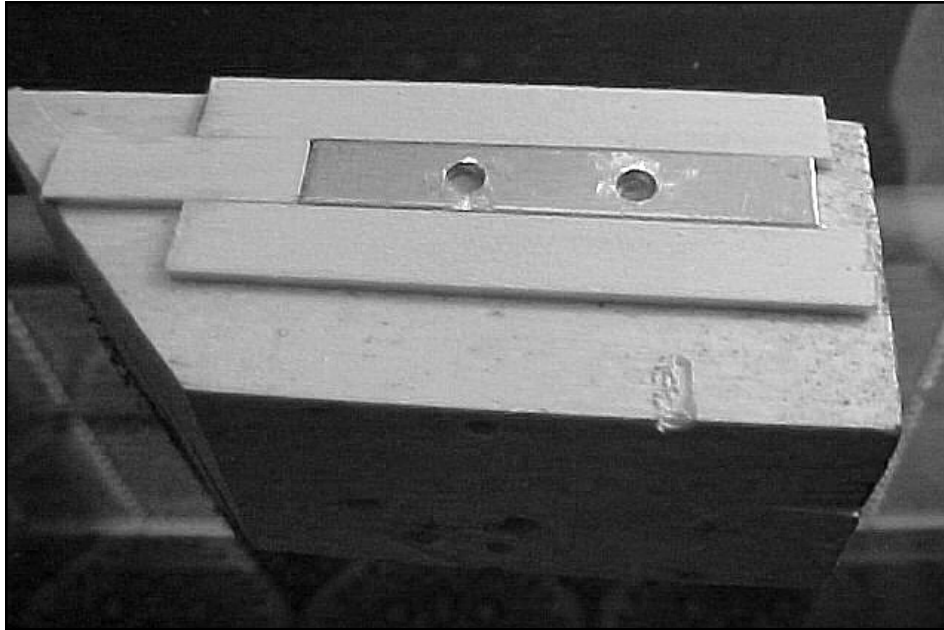
Here is a little tip for those who are using Aluminum motor mount pads. Holding them and getting the holes in the right place can be a pain. So I made a little jig out of scrap wood to simplify the job. Scrap piece of 2 by 4 and some 1/16th strips. Quick and easy and a bonus is you don't burn your fingers.

Cheep trick for whatever it's worth. If you buy Pringles Potato Chips, save the lids. They make great mixing bowls for epoxy or JB weld and when it dries, you can bend them and it all pops off and the lid is like new again.

A question came up recently that I couldn't answer so I'm asking for your input. This column is "Sport Flyin'" so what is a sport flyer? Can a person who enters beginner or intermediate PA competition be a sport flyer? Is Al Rabe now a sport flyer because he hasn't entered

intermediate or advanced PA level entrant a competitor? Inquiring minds want to know. Just to make it interesting, I'll even offer a prize. Best definition (two categories) for "Sport Flyer" and "Competitor" I'll cut out a piece kit for any classic or old time plane the winner chooses.

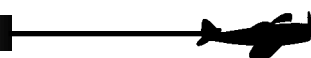
Cut off date for entries is September 1, 2006. Decision of the Judge (me) is final. Email or snail mail your best shot. I won't accept phone entries because I need to study your input and be able to compare to others. Winner(s) will be announced in the November/December issue of SN.



Picture is worth a thousand words

competition in many years? Are there any sport flyers in PAMPA? This question then begs for the other side of the coin. What is a competition flyer? Is a person who enters OTS and finishes last at every contest he goes to a competitor? Is a beginner,

Later, John





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The Ghost - For me, like many stunt fliers, every plane I build is an experiment. My last experiment, the Berserker, was a profile design for 65-size engines (I wanted a profile for local contests and wanted to use my favorite engine - the PA-65). I'm satisfied with the success of the experiment. The plane is fun to fly and it's helped me to improve my pattern. My new experiment is the fourth in a series of Steve Buso Super Kestrels - the SK-4 (which I'm calling the Ghost). That seemed like a good name since it's going to have a blue tinted finish with pearl ghost flames.

I'm going to use this column to describe my latest project and to discuss my current state-of-the-art in building high performance stunt ships. My hope is that other fliers will find some ideas that they can use. Before starting, I must point out that there are many ways to build a stunt plane. Each flier should choose an approach that is suited to his level of knowledge, building skill, budget, available time, and

WE HAVE THE TECHNOLOGY

personal preferences. The way I do things isn't for everyone. Building a new plane involves many choices. I'm going to discuss the choices I've made for my new plane -- you have to decide what's best for you.

Steve Buso originally designed the Super Kestrel for a ST-60. His version (the Zap Machine) was perhaps the most visually striking stunter ever, winning Concours at the 1991 Nats. It also flew exceptionally well. Windy still talks about the way it turned square corners. My series of Super Kestrels has stayed close to Steve's aerodynamics - the only change (with Steve's concurrence) has been to reduce flap area as weight was reduced. Steve's Super Kestrel weighed 72 ounces. My first three weighed 58, 55, and 50.5 ounces. While staying close to Steve's design aerodynamically, I've innovated many structural changes. Steve used a foam wing - my planes have all had lost-foam geo wings. Steve's fuselage used 1/8-inch balsa sides, ply doublers, and hollowed top and bottom blocks. I'm using 1/16-inch fuse sides, carbon-fiber doublers, and molded top and bottom shells. I should point out that Steve and I had different objectives. His objective was a good-looking, good-flying plane that was relatively easy to build. I liked the looks and performance, but sought to make the structure lighter and stronger (most of my changes also made the plane more difficult to build).

Engine -- This is the most important choice in building a new plane. My first Super Kestrel used a muffled PA-61RE. The second plane used the same engine, but I switched to the PA-65RE when it

became available. The third plane also used the PA-65RE. However, the SK-4 will use the new PA-75RE. I've already tested the engine, and it runs much like all my other PA engines, only with more power (it four-cycles a 14-5 Rev-Up at 9000 rpm on the bench). I'm amazed that it only weighs 0.6 ounces more than the PA-65RE (it's actually lighter than the PA-65SE that I used on the Berserker). For me the choice is easy - the PA-75 delivers more power with a minimal weight increase and it's a good size for the 750 square inch Super Kestrel. I'm going with it.

All my Precision Aero engines have been easy to start (usually one flip) and have given me consistently great runs. Of course, I could have more power if I used a tuned pipe, but I'm quite happy with the muffled rear exhaust setup. I like the broad power band and easy needle adjustment. Last year I used the RO-Jett header muffler quite successfully, but after some testing, I've decided to use the Precision Aero header muffler (mostly to save some weight).

Design Changes - I'm continuing my line of Super Kestrels because I like the way they look, the way they fly, and because I can build on my experience with the first three Super Kestrels. However, there will be major changes to the design this time.

1) Nose and Tail Moments - My goal for the SK-3 was a weight of less than less than 50 ounces. I was ecstatic when my finished plane weighed out at 49.5 ounces, but not for long. When I checked the



balance, it needed an ounce of tail weight, so the final weight was 50.5 ounces. Apparently, I've been more successful at lightning the tail than the nose. A moment change is needed to eliminate tail weight. Another factor affecting the moments is changing from the PA-65 to a PA-75 - a weight increase of 0.6 ounces. Finally, after consulting with Randy Smith and Steve Buso, I've decided to increase the tail moment from 17 3/4 to 18 1/2 inches (this is to help handle the big engine turning a 14-inch prop). I've done a moment calculation incorporating all the planned changes and it says shorten the nose a full inch.

2) Fuel Tank -- For the third plane I switched from a metal tank to a plastic tank. Plastic tanks are lighter and they don't corrode (I make mine with a stainless steel clunk and stainless tubing). I had zero problems with my plastic tank setup, following Dave Cook's prescription (thanks Dave). My Sullivan R-6, which actually held 6.5 ounces, was a good size for my PA-65. However, the PA-75 will need more fuel so I'm going to a Sullivan R-8. The only way to shorten the nose a full inch and fit in the tank is to recess the tank compartment into the wing. I've never thought that this was a good idea, but I don't see another

option. A lot of fliers are doing this - Phil Granderson, Bob Gieseke, and Bill Werwage to name a few. It's working for them, so I'm going to give it a try.

3) Wing-mounted gear - The Super Kestrel was originally designed with fuse-mounted landing gear (probably for simplicity) and my first three Super Kestrels followed the design. The first plane I built with wing-mounted gear was my Berserker. The first time I landed it on asphalt, I was astounded at how easy it was to land. Going to fuse-mounted gear is any easy choice for me. I'm trying to figure out why I didn't do it sooner.

4) Rudder and fin -- Mostly based on Randy Smith's recommendation, I'm increasing the area of the fin and rudder by 50%. This is to help keep the tail from wiggling in maneuvers, and is made necessary by the larger engine turning a big prop. Randy made a similar recommendation when I was designing the Berserker. He was right about that, so he has a good track record with me.

5) Flap tabs - I'm putting adjustable 4-inch tabs at each wing tip. This makes it easy to trim a wing that's not level. It also reduces the movable flap area. This is good because SK-3

had more flap than it needed.

The Rest of the Plane - The SK-3 was a 50 ounce plane with a 65-size engine. I feel that my state-of-the-art is already at a high level. I'm going to talk about the things I didn't change because other fliers might consider using them.

Wing -- I'm staying with Bob Hunt's lost foam geodetic wing system. I've used it for my last three planes with good success. The geodetic design gives warp resistance and results in using fewer ribs. The lost foam method is the only way I know to produce geodetic ribs with the correct angles sanded on the front where the ribs mate to the sheeting. Building the wing in foam cradles is a good method for producing a straight wing (of course there are others). I also use molded leading-edge sheeting produced with molds from Bob Hunt, who can be contacted at Robin's View Productions.

I built my last wing without spars. I usually strengthen the spars with carbon-fiber tape from Hobby Lobby (part number CCF001). The tape is 1/4-inch wide and 0.002 inches thick. It adds great strength with very little weight. The tape adds so much strength that the 1/4-inch balsa spars only function as building aids. After the D-tube of the wing is assembled they really aren't necessary, so I eliminated them. I used temporary spars tacked to the ribs during construction, and bonded the carbon-fiber tape to the inside of the leading-edge sheeting before assembly. The wing came out fine (under 7 ounces with the controls), and I saved a few tenths of an ounce, but boy was that a lot of work. I'll never do that again. Also,

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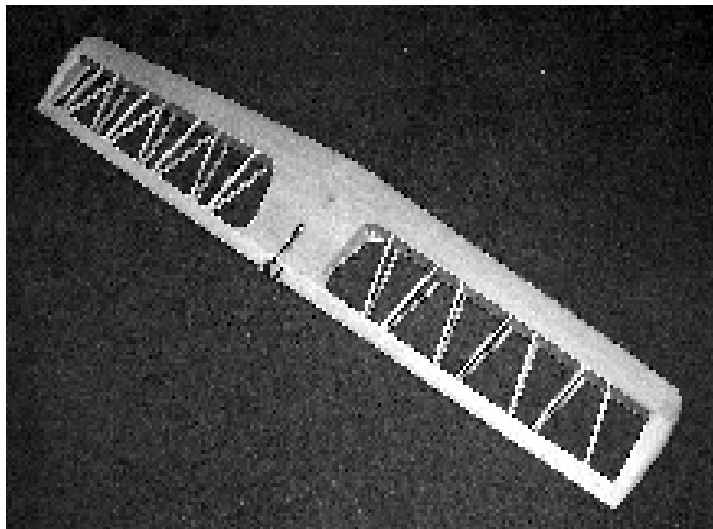
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I don't think I'd try not using spars with wing-mounted gear. You need the spars to mount the half-ribs and gear blocks.

Here's the completed SK-4 wing. Spar webs are 1/16-inch balsa with carbon-fiber mat bonded to one

makes it ideal for use as a core in composite structures (like engine crutches). Also, it's impervious to oils, solvents and fuel. F-1 and F-2 are also laminated from carbon fiber and Rohacell foam (the edges are basswood).



side. With the gear plates it weighs 7.15 ounces.

Fuselage - I build my fuselage in two halves, front and rear, split at the high point of the wing. The front half is built as a box structure, and is extremely strong. The engine crutch uses standard maple engine bearers sandwiched between two sheets of carbon-fiber laminate from Aerospace Composite Products. The filler between the sheets is Rohacell foam. The woven bi-directional carbon-fiber laminate (Aerospace part number CLW-45) is 0.013 inches thick and gives incredible strength with about the same weight as 1/64-inch plywood. The Rohacell foam is from Composite Structures Technology (part number R3112). It's a light (2 lb/cu ft), rigid, white structural foam with a high strength to weight ratio (when compared to balsa, styrene, or polyurethane foams). Its high compression modulus

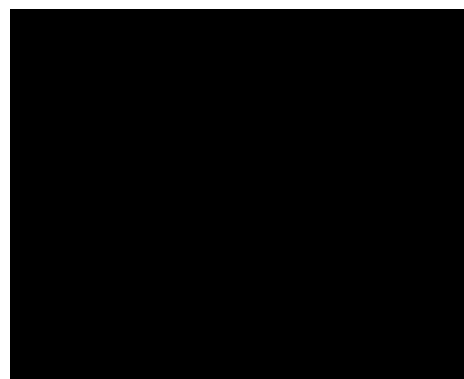
crutch. The bottom cover for the tank compartment is made of 1/16-inch plywood and mounted at the corners with 4-40 shoulder screws. It serves as the sixth side of the tank compartment box, and adds tremendous torsional rigidity.

The rear fuse sides are made of 1/16-inch balsa with 0.2-ounce carbon-fiber mat laminated to the inside. I've used 1/16-inch rear fuse sides in my last three planes, and I see no reason to use thicker wood. I do advise plenty of formers to insure that there are no ripples in the sides. Like the fuse sides, the molded top and bottom shells, and the formers use 1/16-inch balsa with 0.2-ounce carbon-fiber mat laminated to one side.

Stab and Elevators -- I use a built-up, tapered and airfoiled stab. It's more difficult to construct, but it's lighter (the SK-3 stab weighed 0.66 ounces), and aerodynamically it's

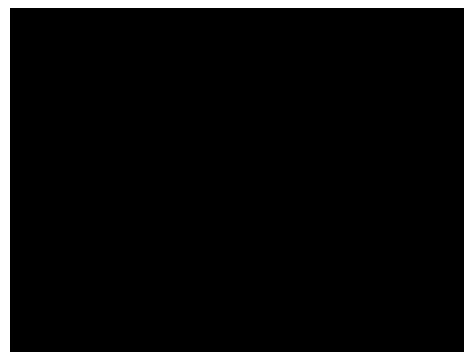
more efficient. The trailing edge of the stab is built as a box spar. The sides of the spar are 1/16-inch balsa with 0.2-ounce carbon-fiber mat laminated to it. The top and bottom of the spar are 1/16-inch balsa reinforced with the same carbon fiber tape used in the wing. Both the stab and elevators (also built up) use a geodetic rib pattern matching the wing.

Here's the fuse front with the



tank in place. Constructed of balsa, maple, basswood, plywood, carbon fiber, and Rohacell foam. The plywood plate inside the compartment mounts the remote glow driver.

Here's the fuse front with the engine, spinner, and header muffler mounted. The tank compartment cover is in place - adds tremendous stiffness.



Controls - Of course I'm using a ball-link control system - 3/16-inch Central Hobbies pushrods with Rocket City Ball links. I'm using



control horns from Tom Morris that are designed to use with ball links. The holes are threaded 4-40, and there's a half inch between the holes on the flap horn to provide clearance between the ball links. I made the bellcrank from 1/4-inch Delrin. It's a four-inch bellcrank with a one-inch arm for the flap pushrod. The arm on the flap horn is 1 1/4-inch.

This ends the cook's tour of my winter building project. My goal (again) is a finished weight of less than 50 ounces. As always, it will come down to how well I do the finish. I hope I've given you some ideas you can use.

Good luck with your next plane.

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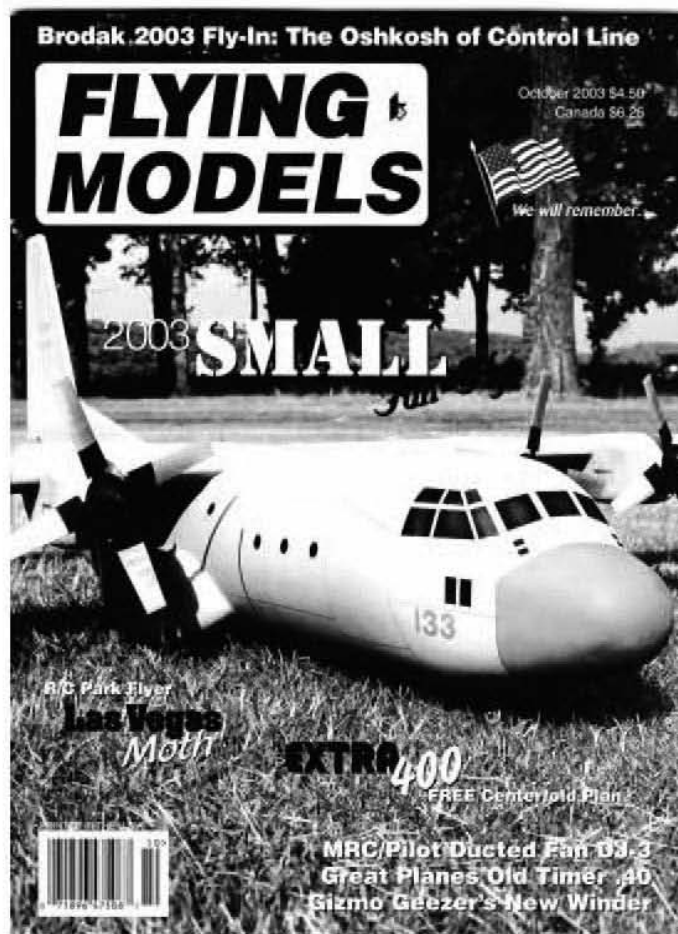
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Dan Rutherford

Seems there has been a new SPAMPA president elected recently. No, really. I heard something about it just recently, a minor off-hand comment or two. Further, I have been told it is Paul Walker, local Stunt Hero here in the Pacific NW. I have also been told Paul has an interesting series of wins at the top levels of competition, this including a World Championship. Hmmm, could be, he certainly is an excellent flier of pretty airplanes turning sky tricks.

But such is not always the case.

It was the 2004 edition of the NW Skyraiders Roundup. The usual suspects were out in force, flying the usual events: OTS, Classic, P40, all PAMPA-inspired classes of PA. From what I could see, all the contestants were ready and dialed.

With the notable exception of our new PAMPA president.

Oh, sure, his PA model--an Impact, this after a whole series of rilly, rilly, like, kewl P-51s--looked ready for a

fight, fitted with a spiffy new RO-Jett 61. Four-strokes? What four-strokes...

Ah, but Paul was fixin' to fly Classic Stunt on the weekend as well. Neither he nor the model was up to speed. Serious mischief was there for the taking, just as it is right now...

A lot of you have seen the model which I believe Howard Rush tagged as "the snake plane," a Cobra powered by the ubiquitous Fox 35, this exact piece prepped by Larry Foster.



Not to put too fine a point on it, one and all are advised to remember the model as it was, pristine and to a very high level of finish. Back when it made a winning appearance at VSC.

Now it looks as if maybe it fell off the top of an SUV. Oooh, that's harsh, as Jerry Eichten did once have a PA model topple off his SUV, his dearly beloved just driving away, Jerry having temporarily stored his

model up top.

Having a pretty good idea of what transpired with Jerry's model, the damage done, Paul's Cobra didn't actually look that bad. But it has clearly suffered some damage, this made worse by the jillions-of-stripped-ribs construction and the all-black dope finish.

Not only that, Paul was not flying it well!

Okay, okay. We're going to mercilessly beat him up here, but he and the model gave every indication of not having been out to play for quite a long time.

Look, one of the really enjoyable aspects to CL Stunt competition is critiquing the efforts of our peers. There are usually only one or two circles for practice and competition. We rarely have the sort of pit-thrashing seen in other CL events.

One can only clean models, polish spinners, tighten prop nuts, go back to position the prop blades ever-so-perfectly and then tighten the prop nut again, all the while depressing the flaps to give the impression the controls are supremely free of friction so many times during the day. Just one extra lap through this process and folk will begin treating you as if you might be a little light in the loafers. Not that there is anything wrong with that...

And so instead we watch the ever-repeating shows during practice. Sometimes to learn more about specific trim setups, the characteristics of various engines. And of course there is a lot of



material to be had for those never-ending "I think you need to do this..." impromptu conferences we all regale in calling for various reasons.

But we dare not criticize. Or at least we must be really careful in so doing. There are three distinct categories here:

1) True Experts. One does not want to get caught, for example, being a low- to mid-pack PA Expert such as myself and then nit-picking those who clearly possess superior skills: "The second track through the left side of the outside squares was six inches higher than the first track. That sucks!" This sort of comment from one who is ecstatic when the second track is within a yard or so of the first only shows the commentator to be a total idiot.

2) Newbies and retreads. We never want to be caught poking ribs and giggling when a flier in Beginner or Intermediate PA does a Bozo Maneuver. For one thing, it's real bad form. For another, as a group, we know full well that those make a beginning are pulling the most difficult trick in all of CL Stunt: Just showing up and flying, knowing in advance that their model and skill level will be eclipsed by those who are simply more experienced.

3) Peers. There is a fair bit of latitude when critiquing our peers. You might be shocked to hear Bruce Hunt and I talk about maneuvers flown, trying to push each other into a better performance. Okay, it's usually me with the brutal comments. And we both jump all over Randy Powell's performances. In a rotating scenario, Randy and I brutalize Bruce when he is flying,

and I pretty much expect the same treatment from them when I put up a flight.

There is another category, but it is so rare as to not deserve a line item. This is the situation seen when someone like Paul flies to not only a clearly substandard level but flies like a whack job.

Note that it matters not a whit what the reasons for a sub-par performance might be. The prop, spinner and prop nut all coming loose while on the clock, and as once actually happened in Salem, Oregon? So what, it's PW! Not having flown the model for a couple years? So what, it's PW! Short engine runs? So what, it's PW!

When this kind of opportunity presents itself, not only is it so rare as to be a precious gift, it's like being given a signed blank check from a rich guy. And it is also time to pile on without mercy. From the relative safety of the pit area, of course. And on this day only when the Fox 35 was running, nicely keeping Paul from hearing.

And so we took full advantage. I don't remember most of the crowd around me, although it no doubt included Bruce Hunt and Randy Powell. Paul would pull the snake plane up over the top in a reverse wingover and cut inverted.

"Hey, that was only a 20-footer; good job, Paul!"

Inside loops: "I remember flying like that, three wildly different tracks. Of course it was during my second CL Stunt contest, there was a bee in my face, the sun was in my eyes, the handle was off, the engine

was roaring!"

Outside loops: "Those look a lot like the insides did. Are we sure there isn't a bee involved at circle center? Too bad we don't have Advanced Classic for Paul to enter."

Inside squares: "Cripes, I could have driven my van under that set of squares without hitting the Cobra."

Outside squares: "I'm serious. If he does that just one more time I am going to drive the van across the downwind side of the circle and under the squares! What's to risk? The van is old and beat-up. So is the snake plane."

You get the idea. We were in our glory, cashing that blank check for an enormous sum.

Toward the end of the run the motor just flat quit early. I don't think PW even got to the overhead eights.

We didn't say a word. It was of a sudden quiet, you know. But we were all thinking, "Oh, that's just too bad. Move me up one slot in the results for Classic. Let's see, 25 points off for no pattern points. Missed the overheads and the four-leaf. That's 105 points even if he does get in two laps and a landing. Start the music, let's dance!"

Of course we pretended to be sympathetic. That's part of the game...

Another practice flight. Not quite so much joy this time around, although still lots of opportunity for mischief. Again we took advantage.



And again the motor went on its lips early. More mental calculations as to what might transpire during officials. Still lookin' good...!

But I couldn't stand it. All of the details not now, but Paul has never once let me down. On this very weekend I inadvertently jammed a running 12-volt starter--operating on 14-plus volts, incidentally--into a spinner, this fitted to a nicely flooded 20FP. We call this a rod test. The rod bent. Paul was right there to help in getting the gimpy motor swapped out for a good 'un, we did so with time to spare and I put up an official in that very round.

The very next day I pushed my Impact just a little too hard, the motor quit in the second loop of the four-leaf clover. I merely glanced at the pit area; Paul was already out of his chair. No problem. I pulled it around; of course he was there to catch it.

So it was that following the second short-run flight of the snake plane I checked my fuel. It looked as if I had enough 10/25/65 for OTS, maybe had enough to share, especially if I took a pass on a practice flight, and possibly flew just one official, not an issue of consequence.

I also suspected Paul was using 15% or even 20% fuel, this leading to mileage issues. He wasn't and in fact his fuel and mine were apparently identical blends. No matter, a single flight with my brew resulted in a complete pattern plus several laps.

More mental calculations resulted in little further joy from ankle-biters such as me. This was made worse by the fact that PW's patterns were improving at a quite remarkable

rate. As stated, opportunities like that seen this weekend are quite rare, in this case lasting for only about 10 or 12 minutes...

There was still opportunity for mischief, however.

First, you need to know a couple things. I had somehow contaminated my fuel with crud, plus we were at the bottom of the jug, the end of the season for OTS. As I use an exceedingly good in-line filter on my fueling rig it would sometimes get clogged to the point of quite markedly slowing the flow.

At the time my "solution" to this occasional annoyance was to slip a length of bladder material from The Core House into the line, this upstream from the filter. Thus one could hit the pump four licks for a four-ounce load; if the filter wouldn't readily pass this much fuel the bladder took the overage while keeping the pressure up and (slowly) filling the tank while other sorts of pre-flight preparation were made.

Hey, made sense at the time, especially so for practice sessions, plus it was fun to see the looks on the faces of those who noticed. PW did not notice.

Secondly, local contest or not, fully practiced or not, Paul does not insult us by just phoning it in. He always puts forth the best effort possible. Which means that when he plops a model down for a flight, he is all business, has on his SSF (Serious Stunt Face).

So by the time Paul's second-round flight was up in Classic, the two of us had been using the same fuel, we were nearly out of fuel, the

pick-up was well into the crude zone, the filter was getting clogged.

As I knelt behind the model, PW pumped in four ounces. Nothing. He kept fingering the over-flow vent. Dry as a bone. He pumped in more fuel. Still no confirmed-full indication from the vent.

I started to laugh, immediately thought better of that idea. Especially when Paul pulled back from the preparations, was clearly confused over what was happening, the next step being total exasperation.

But what was I to do? How does one explain such a one-of-a-kind--and, okay, more than a little bit weird--fueling system at a time when all efforts to get in the air really ought to be automatic and intuitive? As opposed to being fraught with the unexpected complication of a bladder pumped full of what was by now an excess amount of fuel...

More importantly, following a few moments to let the bag do its work, do you know what happens when the airborne tank is full and a bladder-fed fuel line is removed from the filling tube on the model? Okay, it wasn't a blast of raw fuel, but it was a further distraction...

Having been the cause of problems during pre-flight preparations I finally got my own face on, that of SPD (Serious Pit Dude) and made certain the tank was full. I then quickly removing the offending fueling rig from the immediate area, getting back to the job at hand, ultimately launching the model.

With this second-round flight, Paul and the Cobra just killed all of us in Classic Stunt. There was



no talk of driving my van under the squares. Point of fact, I have seen tool boxes which would not have escaped damage if placed under the squares...

But we made him work for it, along with gleefully participating in a rare few moments of sneering at his efforts earlier in the day.

Cobra: Around \$250.00
Some left-over fuel: \$2.68.
A short length of bladder tube: \$0.29.

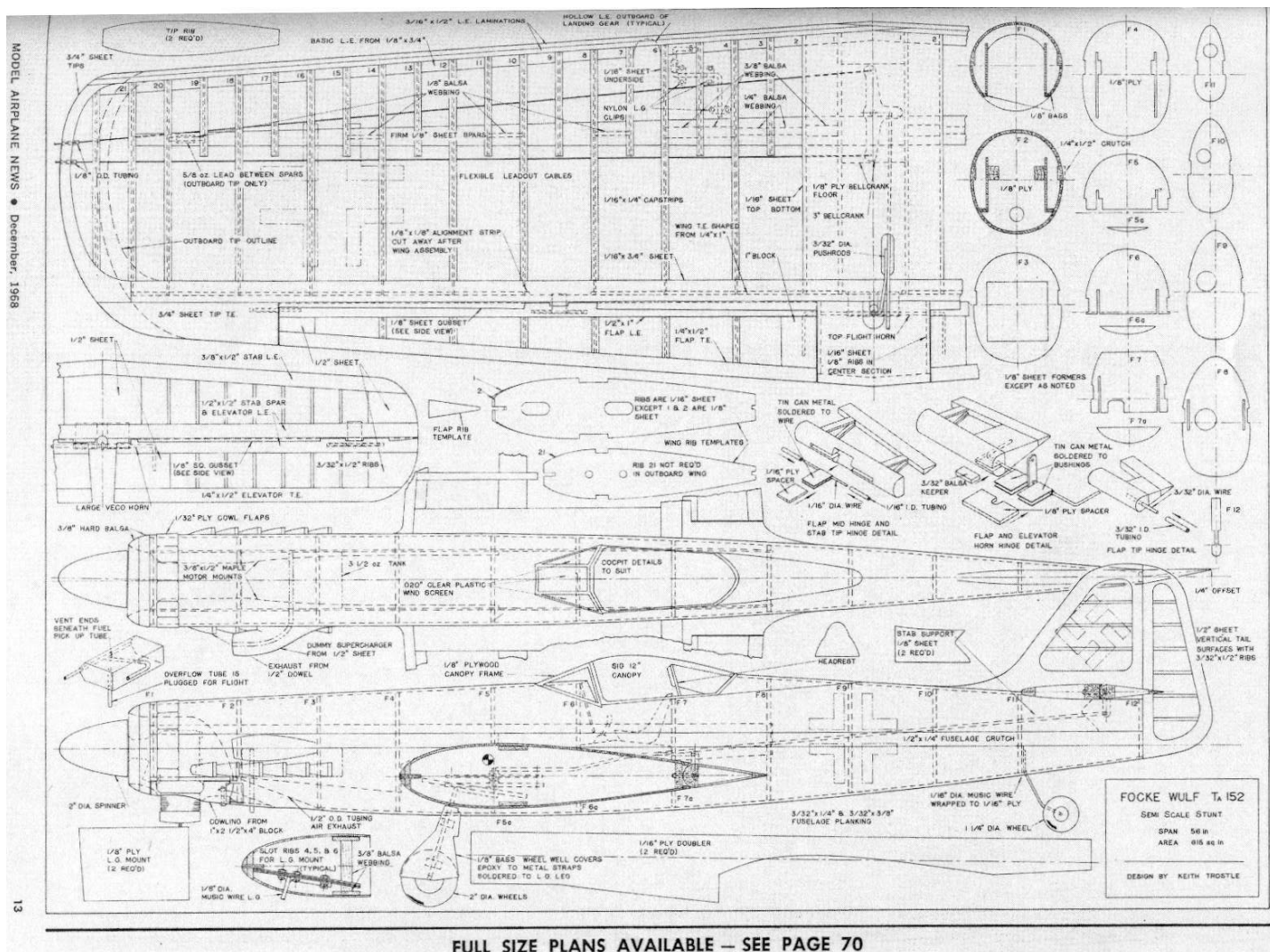
The look on PW's face: Priceless.



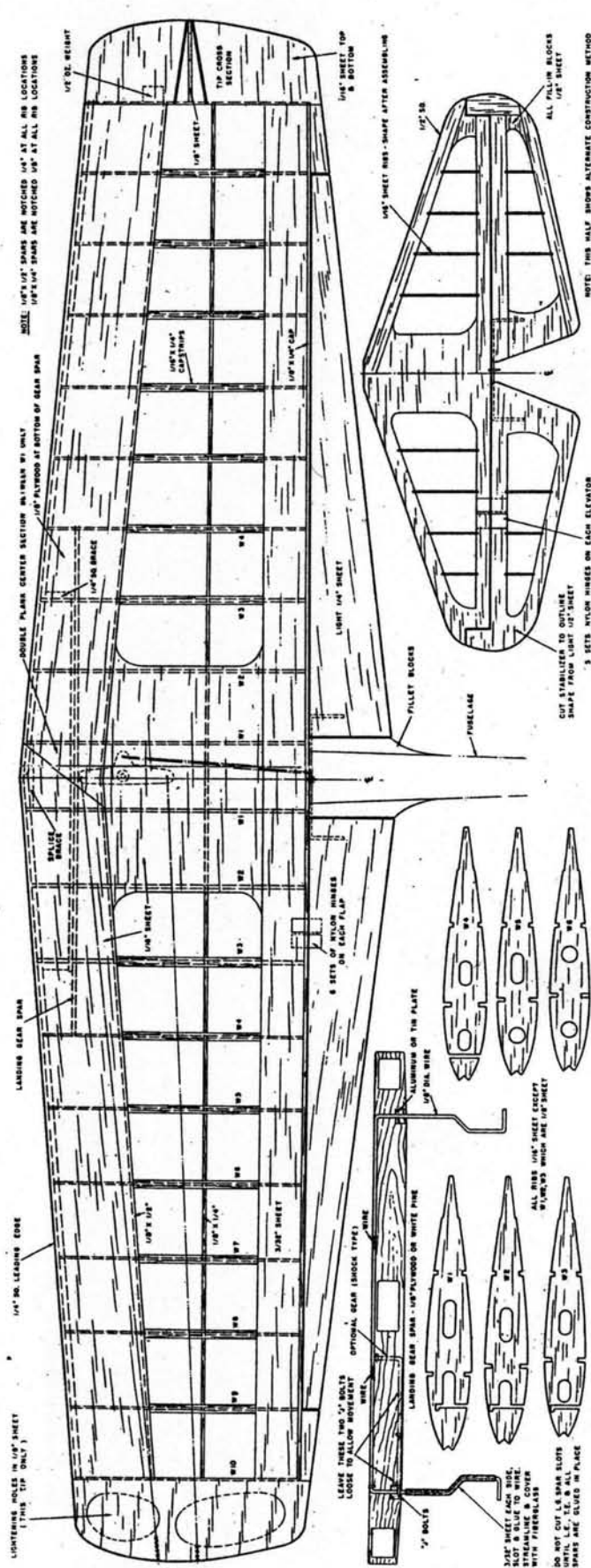
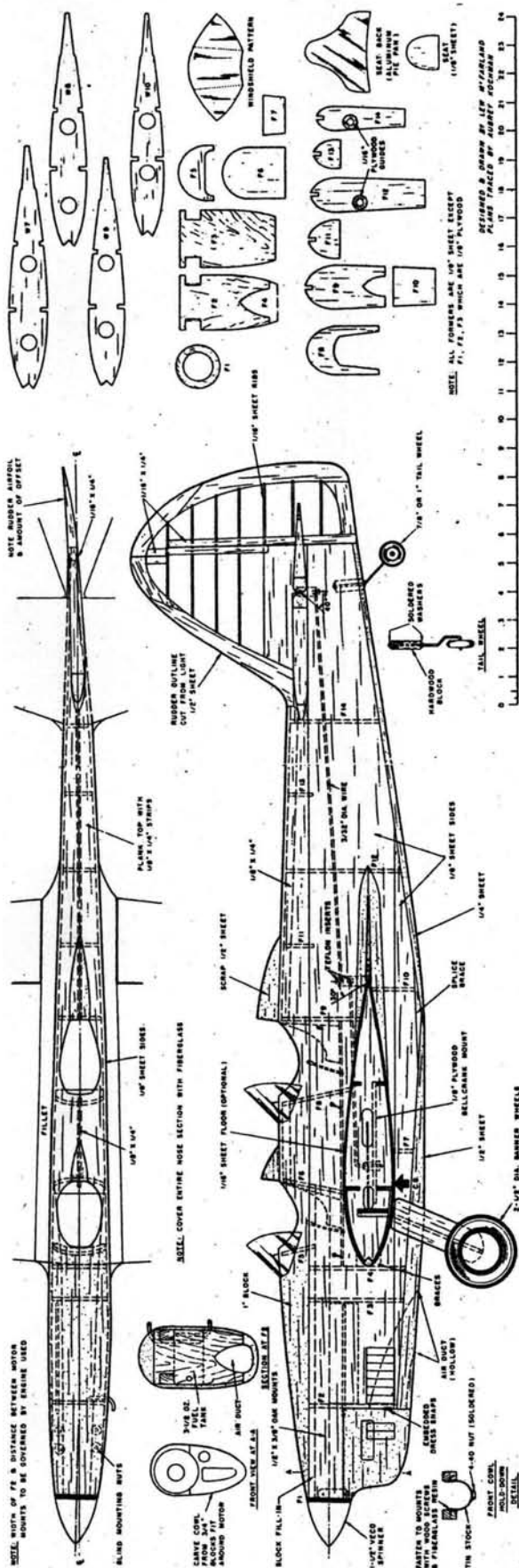
Tom McClain
6801 N. 28th Street
Arlington, VA 22213

CLASSIC PLANS

Planes I would like to see built and flown



Plan Credit - Keith Trostle - Man DEC 1968



Plan Credit - Lew McFarland - American Modeler June 1962

STUNT NEWS RULES OF THE ROAD

Guidance for 'Stunt News' submissions by Tom McClain, Managing Editor, Stunt News.

Thank you for making Stunt News one of the best magazines on the market. The Officers, Directors, Associate Editors and other contributors work hard at keeping Stunt News informative and entertaining. The editorial policy has undergone a minor update and is attached at the end of this article. We try to publish everything submitted with minimum editing, but please try to keep submissions brief. If someone submits something you disagree with, it is your responsibility to respectfully respond. You don't have to be a big name competitive flyer to contribute. So, don't be bashful about sending in your ideas or photos of yourself just because you're not a top twenty national competitor. We have over 1150 US members and 220 members from other nations. Stunt News is truly an international forum. We covet and appreciate your contributions.

1. **Deadlines.** Meeting the deadlines is the single most important issue in submitting items for publication to Stunt News. For all issues the deadline is the 20th of the month preceding the issue date (about 40 days before the mailing date). Deadlines are printed on the last page of each issue. Late submissions are difficult to accommodate! Mark your calendar and be on time!

2. **File Names.** Each text article must have a unique file name. Use your last name or if your last

name is long, the first couple of syllables of your last name. For example: BRICK.rtf, RUTHER.rtf, and SUNDER.rtf. If you are submitting multiple stories add 01 to the first file name and 02 to the second, etc. Each photo must also have a unique file name. Using a ballpoint pen, write the file name on the back of each photo. Let the ink dry before you stack the photos. Again, use your last name or part of your last name as a file name, for example, BRICK01.tif, BRICK02.tif. If you have more than 10 photos be sure to use 01, 02, 03, etc. instead of just 1, 2, 3, etc. for the first nine photos. This keeps them in order in the computer.

3. **Text.** Send text to the Desk/Text Editor, Robert Storick, 8816 Manchester Rd, #170, St. Louis MO, 63144-2602, or e-mail text to deskeditor@stuntnews.org. The best way is to submit text on a CD in Rich Text Format (.rtf). Avoid using tabs. Do not have a bunch of old files on the CD. Body text should use Times New Roman font, size 10 point, fully justified. Photo captions should be included right in the text where you want the photos to appear. Photo captions should be in Arial, bold, italicized font, size 8 point, fully justified. Make it very clear where you want each photo to be placed in the text. Leave a couple of blank lines before and after each photo location. Type in the file name of the photo. For example: Photo BRICK01.tif here. Text can also be submitted as an attachment to an e-mail.

4. **Photos.** Send photos to the Photo Editor, Ken Budensiek, c/o Star Photo, 2522 E Milwaukee St, Janesville, WI 53545, or e-mail to kennyb@tds.net. The best way

to submit photos is to send the negatives or put them on a compact disk. Most photo services will now put photos on a CD. The printer can handle 1 to 2 Meg photos up to 11x17 inches in size. If you send photos, you must put a piece of masking tape on the edge of each negative with the filename, or relate each negative to a file name by the negative's number. If you send photos by e-mail, send them in a compressed .tif or .jpg format. Strive for quality and not quantity in your photos. Treat tables, sketches and drawings as if they were photos. Better yet, take digital pictures of your tables, sketches, and drawings and put them on a CD with individual file names just like photos. Don't imbed tables, sketches and drawings in text. It makes it very difficult during page layout. Next best is to send hard copy of tables, sketches and drawings so they can be scanned just like photos. If you send a batch of photos with no article, such as a bunch of photos taken at a contest, give each photo a file name and type the captions as a single separate text file. Use your name as a file name for the photos and the captions. Hand written captions on post it notes, stuck to the back of the photos, won't cut it. Please don't send entire rolls of film. You should do the culling before you send it to us.

5. **Personal photos.** If we do not have it, send us a good photo of you to use at the beginning of your article. If you have a new one or you are unhappy with the one we are using, send us the photo of you that you wish to use at the beginning of your article.

6. Finally, in order that Stunt News provides you with the best

information and entertainment possible suitable for all ages and audiences, we have a few rules of the road to inform all of you about. Here they are:

“ Input from the membership is what makes Stunt News great. You are the source and the reason for Stunt News’ success. Without your input, Stunt News will wither and die.

“ Suggestions on how to improve the content and appearance of the newsletter are welcome.

“ Anything control line aerobatics related is welcome.

“ Please work through the assistant editors. If you have a doubt of which assistant editor to contact, send your input to either the managing editor or the desk editor.

“ Deadlines are important. They give the staff adequate time to do their job and provide a quality product to the membership. Please make every attempt to provide your input on time.

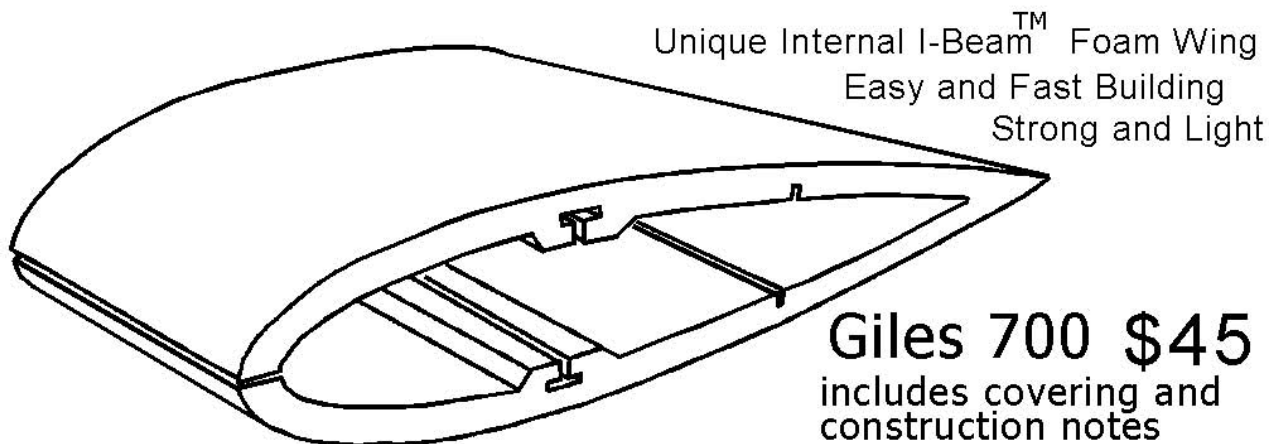
“ Constructive criticism is allowed, but it has to address an obvious problem, be positive in nature, and must offer a reasonable solution.

“ No profanity and personal attacks are allowed. If the editorial staff deems a submission to be violation of this policy, the author will be contacted to amend his/her submission to make it acceptable.

“ Finally, the mission of Stunt is to promote and facilitate the flow of information that will benefit all Control Line Precision Aerobatics enthusiasts, regardless of skill level or their interest and participation in

competition. This will be adhered so that Stunt News will serve all of you in the furtherance of the PAMPA charter, which is to “Improve the Control Line Precision Aerobatics event.”

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Hoyt Hawkins

Harnessing the WarHawk. Flying a P-40F and trying to keep your cool by Jeff Ethell Copyright © 1996 by the Confederate Air Force and Jeff Ethell. All rights reserved. Reproduced with permission.

In 1988, Col Jeff Ethell, well-known aviation author and pilot, had the opportunity to fly Bill Anderson's P-40F Warhawk at the National Warplane Museum. Having never flown a P-40 before, Ethell recounts the exciting adventure, describing the challenges and unexpected thrills of piloting one of World War II's most recognized fighters for the first time.

Settled into cruise, I glanced at the coolant temperature (a constant exercise) - upper green just short of 110 degrees C, then at the oil pressure and temperature - in the green. Ever so slowly the temperatures on the Allison engine crept down while the speed crept up. At last I could grab the big tractor brake type handle for the cowl flaps, squeeze the release and

HARNESSING THE HAWK

Harnessing the WarHawk. Flying a P-40F and trying to keep your cool by Jeff Ethell Copyright © 1996 by the Confederate Air Force and Jeff Ethell. All rights reserved. Reproduced with permission.

raise it to neutral. The slipstream, pushing for all it was worth, caught me by surprise ... I had to push down on the lever to keep it from banging to closed. The P-40E Warhawk immediately responded by gaining speed. Those "cooling gills," as the British call them, produce a great deal of drag when opened on the belly of the fighter but are the only recourse to cooling a hot engine after a climb at military power.

A quick glance around the cockpit proved I had to tidy things up. The P-40 is a genuine product of the 1930s - with levers, switches, pumps and gizmos all over. In order to fly one it would help if the pilot had a steamship captain's license or doubled as a concert organist on one of those massive multiple register instruments which require all kinds of pulling and shoving of stops and levers.

With all in place, I tried a few turns and was surprised by the rapid ailerons. By comparison, the P-51 is locked in cement. A glance down the nose gives the pilot a more pronounced feeling of sitting far back behind things than the Mustang due to the pronounced carburetor scoop atop the cowl. And slightly to the right, atop this impressive nose, is a genuine ring and bead fixed gunsight, straight out of "G-8 And His Battle Aces." A glance out the sides of the canopy was another shock - there was hardly any wing out there. No wonder the ailerons are so responsive.

As the adrenaline from my first takeoff was reabsorbed, I took time to drink in my surroundings. I was flying the first fighter my Dad checked out in at Luke Field in 1941. Not only that, it was painted in the colors of Flying Tiger ace R.T. Smith, a good friend who had flown with Dad later in the war. In spite of being surpassed as World War II went on, the P-40 Hawk series became America's symbol of determination to beat a tenacious enemy as Spitfire was to the British.

After takeoff, I climbed to a safe altitude, leveled off with the power back to 30 inches and 2,000 rpm, and began to get the feel of the Warhawk. The more I handled the fighter, the more pleased I became with the plane. Though the elevators tend toward being heavy, they are certainly no heavier than a Mustang. The best test I could give the ailerons was a roll. Nose down to get above 200 mph, nose up and . . . wham! I was caught completely by surprise at the extremely rapid roll rate. Before I quite knew what was happening, the fighter went all the way around. Roll again ... same thing, less surprise. Again ... exhilaration, freedom. Again ... sheer joy. I had discovered the most delightful aspect of the P-40 without having heard about it.

After years of reading that the P-40 could not maneuver, particularly with a Zero, and that it had to make diving slash attacks to be effective, I had come to accept the general opinion that it was outclassed by almost everything else flying. Sitting



in the cockpit, with the controls in my hands, having written a book about the aircraft and said all those things, the accepted history in my brain was wrestling with the seat of my pants. No question it did not have the top speed and high altitude performance to disengage targets at will, but it was certainly more maneuverable than other American fighters, particularly the P-51.

One other thing to check out ... I shoved the nose down. Within a few seconds speed was picking up rapidly until I was approaching 400 mph with no effort. The drawback to all this speed is having to virtually stand on the left rudder to keep the ball centered. Every power or speed change brings an immediate trim change which the pilot must either counteract or trim out. It can be a real handful in a dive or a loop. A gradual pull out was a fight with very heavy elevators but no question the P-40 could rip through an enemy formation and get away. If the Zero was more maneuverable it must have been fantastic. I began to appreciate Saburo Sakai's comments in his book "Samurai." Of the fighters he faced during 1942, he considered a well-handled P-40 to be among the most formidable. I now understood why. Of the many types I have flown, this Curtiss product is among the most enjoyable to fly.

By my third flight, several days later, I eagerly headed out and jumped into the cockpit, ready for some genuine aviating. This would be my first flight from a paved runway so I had some apprehension. Without exception wartime and current pilots have said it behaves badly when away from the grass, particularly in a crosswind, as the manual makes very plain - "Avoid

cross-wind landings whenever practicable." No advice on how to handle them ... just avoid them. There was a constant crosswind around 15 degrees from the right at 10 knots or so. With assurances it could be handled, I leapt off again to patrol the skies and chase imaginary Zeros with my ring and bead sight.

Back to the field, left break and around onto final with gear and flaps down. As the long nose settled toward the runway it was clearly pointing to the right as I corrected for the crosswind. Right wing down, left rudder and I brought it down onto the runway with no bounce - I was on and tracking straight! What a relief. The tail came down and she was still going straight.

Slowing down to under 40 mph, just as I started to let out the breath I had been holding, the Warhawk darted to the right quicker than I could respond. The runway edge had quickly disappeared beneath the right wing by the time I stabbed left rudder - it was so stiff that it felt as if I had kicked a brick wall. Once straight, she went for the right again. This time I had to tap left brake while stabbing left rudder and fight her all the way down to a stop. Even the last few miles an hour were a workout.

As I pulled off the end of the runway and braked to a stop, my legs were jumping on the pedals and I noticed the sweat under my flight suit. Almost in a stupor I raised the flaps and cranked the canopy back, then checked the coolant temp - YOW! She was at redline again and the red warning light was flickering. Cowl flaps were open but facing downwind no air was coming through the radiator. Without enough time to feel sorry for myself,

I taxied back to parking and shut down, then lapsed into a state of semi consciousness after making sure mags and battery/generator switches were off.

On the last roll-out the P-40 of landing legend rose up and bit me in the hind end, just to let me know who had tamed whom. Suitably chastised, I sat still in the cockpit for a few minutes, basking in the experience of having flown an airplane and not having simply driven one like a car. That is what continues to attract me to these great warbirds of the past. Not only were they part of what won World War II, but they had to be flown by men who relished the challenge for its sake. To have been a part of that, even though it has been so many decades ago and is but a shadow of actual combat with its horrible realities, causes me to admire the men who flew. There will never be another breed quite like them.



INTERNATIONAL NEWS



Paul Lagan

Cheviot Classic
CL Stunt International Contest
RI of the 2006 World Cup
Cheviot, New Zealand
7,8 January 2006
(Report by Paul Lagan)

The notion of NZ hosting an Open International CL Stunt event followed from my 2004 trip to Europe where I flew in a number of World Cup contests. These contests were very enjoyable and of a high standard and illustrated how popular the World Cup series was in that part of the world.

Cheviot was chosen for the NZ event primarily because it was my hometown, but it also had all the essential ingredients of reasonable flying circles, a good pavilion, and accommodation for the anticipated visitors. A visit to the Australian Nats in July, where I described the event and handed out many brochures, then extensive advertising in NZ and overseas and many letters and e-mails brought the attention to the world stunt community.

All flickerings of interest were followed up and, at one stage, I was confident that about eight Aussies, two Japanese, three Europeans and three Americans were coming over. Most of these opted out for one reason and another and the interest here in NZ was curiously hard to generate. I had a lot of negative, indirect, criticism about the timing, venue and concept and in the end the response from NZ (particularly in the South Island) was one of my biggest disappointments.

In the end, though, we were graced by the attendance of the Beringers and Carles and Maria-Angel Mas from Europe, Will Hubin from USA (Sportsman class) and three top Aussie flyers. The Australians all brought their own models but the others did not, so I undertook to prepare some machinery for them to fly in the form of ARF/ARC kits (three Cardinals and one TF Tutor). Will Hubin kindly sent me an ARC Cardinal kit and a TF Tutor ARF kit from the USA for visitors to use and I imported three ARF Cardinal kits myself. As anyone who has assembled an ARF CL kit will know, it takes a lot more than just a "few hours" to assemble these machines and sort them out! As well, I made a couple of modified "Teosawkis" for back-up -- a six-model fleet -- each complete, fully trimmed and tested and each with a full set of support equipment (lines, handles, batteries, etc). This model preparation project took nearly three months work in all (at about 20 hours per week), and quite a lot of expense and certainly did not help in my personal practice for the event!

The European's schedule was

tailored to allow them to visit the Nats en route to Cheviot--this, in itself, enabled many who could not get to Cheviot to meet these wonderful people. They first flew their models at Carterton in the windy evening before F2B and did really well in the wind of the actual contest the following day.

Apart from a couple of hours one morning, the two practice days before the "Classic" were windy--but nothing like what was to come for the main event! We flew two rounds on the Saturday and the plan was to have the third round on Sunday. Saturday had extreme turbulence from a gusting Canterbury Nor-wester for Round One, which became even worse for most in Round Two. Some periods (in both rounds) were virtually unflyable, but the measured wind speed at ground level was not over the 9 m/s required to interrupt the contest. In Round One, David Wright had an extremely bad period and flew well just to survive and my own flight was in the worst turbulence I have ever experienced--yet others were fortunate to have a window that was "safe" and they completed all manoeuvres in a recognisable manner. Most hoped that this would be their "throw-away" round--but this was not to be.

Round two saw three crashes--the worst being Murray Howell's when his model came in towards him sideways at the top of the square eight with extensive damage. Bruce Turner's broke a down line in an inside loop and Gilbert Beringer's pancaked inverted--the latter two were not badly damaged. Murray

had been putting in a "blinder" of a flight up to his crash--in fact it was the best first half of any flight over the weekend and he would probably have won the contest had his flight continued at the same high standard! Also unfortunate this round was Veronique Beringer, whose Cardinal handled conditions well but overran to miss landing points--she would otherwise have placed higher in the results. Joe Parisi was so badly wind-affected that he aborted his flight about halfway--this was a pity as his first round flight was one of the best of the competition.

Sunday dawned windy and just got windier--a brief respite around noon brought some hope but then the Nor'wester just gathered breath again and Doug Palmer had no option but to call the contest closed after just two rounds. Kim Webby's two good flights deservedly put him at the top of the Classic results and Carles Mas took the "Stunt Supreme" award for the best single flight of the event. Congratulations go to both these flyers, though any one of probably ten of the entrants could have won the event, such were the vagaries of the wind. In practice before the event, we saw some really classy flying. All three Europeans looked smooth and with extremely good body style--I think one can learn a lot about stunt flying just by watching the person in the centre--their stance, reactions and, above all, their steadiness.

The Brodak Cardinals did not fly at all like the typical French models that the Beringers have made famous but they adapted very well. The French models fly like "a ball on a plate" (a Beringer quote) -- one has to use control inputs all the time to keep them steady, whereas

the Cardinals were set up to track a lot steadier and required a lot more handle movement to square them. Gilbert and Veronique would have certainly placed higher in the results if they had not suffered misfortune in the dreaded second round. Carles Mas, though, was more at home with the Cardinal as he flies a Retro 60 full-size Cardinal at home. His first round at the "Classic" was a very accurate flight and the ST46 provided good power output for the wind.

The Australians certainly did not place where they had hoped. Joe Parisi's big Saito 72 model had plenty of power for the turbulence and he looked really good in practice. His first round looked to me to be one of the best flights of the contest but he had to abort his second round part way through. Murray Howell's new Andrei Yatsenko "Shark" was very steady and Murray flew it with great precision--as mentioned above, he was on the way to a top score in round two when he was shot down in the turbulence. The model looked to be "totalled" but the Yatsenkos have advised Murray to return it to Ukraine for repair! Dave Simons has improved overall a lot in the past year or so and in practice also looked very sharp. He opted not to attempt a flight at the end of round two.

Kim Webby put in a lot a practice in the wind on the days preceding the event with both his CAP and his "Aotearoa" --both now Moki 51-powered. Kim really deserved his win overall and has confirmed that he will take his place in the NZ team for the coming World Champs in July (Valladolid, Spain). Owen Rogers was his usual steady self but had turbulence-affected flights in

both rounds, as did Dave Wright's Spitfire, which did quite a lot of free-flying in round one! Bruce Turner's piped MVVS 49 had plenty of power to tackle the turbulence but a line break put paid to his chances. Kevin Barnes, like Dave Simmons, continues to improve--he really impressed me at both the Nats and at Cheviot. Don Robinson damaged his Magnum before the contest and had to revert to his profile Pizzaz for official flights--he went OK but the little model was tossed around a lot.

Sportsman flyers opted to wait out the wind on Saturday hoping for better on Sunday, but it was not to be, so the contest was abandoned. This was a great pity for Will Hubin (USA) who never got to fly the TF Tutor in the event--he only managed a little test flying on the Saturday.

Socially, the weekend was a huge success. We had a meeting/briefing on the Friday evening; a banquet at the Motor Lodge on Saturday and a BBQ at Les and Ann Eade's on Sunday. All had ample opportunity to mix and to learn from each other and we certainly had a great facility at the Rugby Club flying site in the form of a large pavilion where all the flyers (and their models) were able to wait out the weather, have cups of tea/coffee and chat.

Members of the Rural Flying Corps helped to run the event: CD Doug Palmer, Les Eade, Ken Austin, David Mitchell, Neville Mines. The Barnes family did all the results/recording. We had help in producing an excellent prize table from Cheviot Vineyard, Torlesse Wines (Doug Palmer) and the CL SIG and Henderson Racing subsidised fuel costs for the visiting flyers, David



Simons donated an ARC Cardinal kit for a raffle which was won by Kim Webby. Some may have thought the weekend was a Webby benefit as Kim's wife, Michelle, also won a door prize at the banquet!

We were very fortunate to have three excellent judges for the event. Joan McIntyre came over from Australia at her own expense just to judge. Maria-Angel Mas is an experienced and respected European judge and she was a great asset and Andrew Robinson continues to impress as probably NZ's best judge. Thank you all.

Cheviot Classic Open International

Kim Webby	2420.4	2471.1	4891.5	CAP 20L	NZL	Moki 51	12x5 Garvon
Carles Mas	2514.3	2300.7	4815	Brodak ARC Cardinal	ESP	SuperTigre 46	Bolly 11.5x5
Kevin Barnes	2281.7	2418.1	4699.8	Sky Dancer 5	NZL	Stalker 61	Top Flite Super M 13x6
Owen Rogers	2160	2218.9	4378.9	Kotuko	NZL	Retro 61	Yatsenko 13.4x5.9
Paul Lagan	1877.5	2455.8	4333.3	Yatsenko "Akrobat"	NZL	Retro 61	Yatsenko 13.4x5.9
Veronique Beringer	1998.6	2311.9	4310.5	Brodak ARF Cardinal	FRA	35 FP	APC 11x5
Gilbert Beringer		2415	1583.4	3998.4 Brodak ARF Cardinal		FRALA 46	Bolly 11.5 x 5
Murray Howell	2369.8	1401.1	3770.9	Yatsheko "Shark"	AUS	Retro 61	Yatcheko 13.4x5.9
Joe Parisi	2409	1276.4	3685.4	Farcical	AUS	Saito 72	Eather 3-B
David Wright	1778.6	1787.8	3566.4	Spitfire Mk 14	NZL	Stalker 61RE	APC 13x6
Don Robinson	1608.6	1515.7	3124.3	Pizzaz	NZL	ST 46	Wood 12 x 5 1/2
David Simons	2288.4	0	2288.4	Yatsenko "Akrobat"	AUS	Retro 61	Yatsenko 13.4x5.9
Bruce Turner	2022.4	248	2270.4	SV22	NZL	MVVS 49 (pipe)	Eather 3-blade
							12 1/4 x 3 1/2

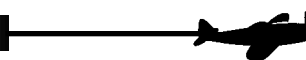
Results: NZ "Stunt Supreme"

1. Carles Mas Spain 2514.3
2. Kim Webby NZ 2471.1
3. Paul Lagan NZ 2455.8

Addendum by Will Hubin: Retired but working just enough part-time to pay for it, this seemed like a great opportunity to obtain a first-hand introduction to the marvelous country featured in the "Lord of the Rings" movie. I was rather disappointed that other Americans didn't also rise to the bait, especially considering the sorry flying conditions in most of the U.S. in the month of January. The availability of expertly-assembled and -trimmed airplanes should have been just the candy needed for Americans with their no-take-apart models, but presumably the expense and our own egos militate against us treating ourselves and our family to wonderful exploration opportunities like this. Hopefully this will change. (Recall Dan Rutherford's article on page 46 in the Jan/Feb issue of Stunt News: "... loaning out an ARF or three has been of more enjoyment to me than to those doing the flying. .. an entertaining three-day binge of CL Stunt flying with friends was the goal..")

Based in an attractive little town on the east coast of South Island, flyers found the accommodations to be modern and reasonably priced and within walking distance of the flying field. Where else could one compare one's flying with World Team members without being on a world team? Where else might one be forced to pause at the gate to the flying field to let a peacock stroll across the road? Where else can one be within a day's drive of a seal colony and ocean cruises and rock-studded mountains and one-way bridges shared with trains, and fine museums?

Top flyer Kim Webby, flying his Moki 51-powered CAP 20. It sure doesn't look eight years old! And it must help to fly with bare feet, at least on a rugby



field!

Second place Carles Mas from



Stalker 61-powered Sky Dancer 5.
Owen Rogers, Retro 61-powered
Kotuko.



Veronique Beringer, from France,
flying Paul Lagan's ARF Cardinal.



Husband Gilbert Beringer, flying
another ARF Cardinal by Paul
Lagan.

Spain, flying the ARC Cardinal
assembled and trimmed by Paul
Lagan.

Kevin Barnes, starting his engine



for Round 2, with judges (L-R)
Andrew Robinson (NZ), Joan
McIntyre (Aus), and Maria-Angel
Mas (ESP) in the background.

Third place Kevin Barnes, flying his



Contest instigator/sparkplug Paul
Lagan, Retro 61-powered Yatsenko
"Akrobat"



Aussie Murray Howell, flying his
beautiful but ill-fated "Shark".





Aussie Dave Simon's pretty Retro 61-powered Yatsenko "Akrobat".



The next day brought forth more winds, so the contest was closed after two rounds. Here are the F2B flyers with their planes.



Aussie Joe Parisi, Saito 72-powered "Farcical"



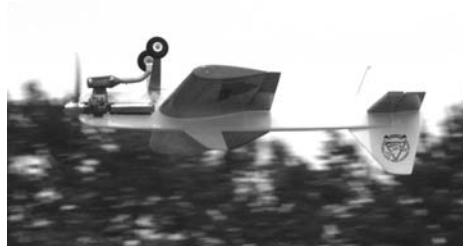
Bruce Turner campaigned a piped MVVS 49-powered SV-22.



David Wright's "Spitfire Mk 14" uses camouflage colors.



The Kevin Barnes is a real C/L-flying family - here are all but the oldest son, at the Saturday evening banquet.



Don Robinson's ST-46-powered "Pizzaz".

Flyers of the ARCs/ARFs provided by the generosity and hard work of Paul Lagan: From left to right, Will Hubin (Tutor II), Gilbert and Veronique Beringer (Brodak ARF Cardinals), and Marie-Angel and Carles Mas (ARC Cardinal). [Photo by Ron Ciminero.]



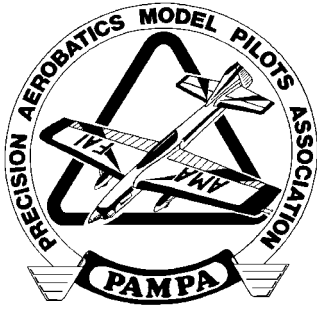
The top three flyers: (L-R) Carles Mas, Kim Webby, and Kevin Barnes, with their trophies, testimonies to their wind survival skills.



Paul Lagan was the after-dinner bearer of many neat gifts.







PAMPA Membership Form

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How did you find out about PAMPA? _____

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Comments: _____

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158 Flying Cloud Isle
Foster City, CA 94404

Dues Expire December 31st

Method of Payment

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Note: Checks must be drawn on a US bank

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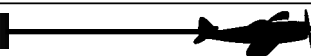
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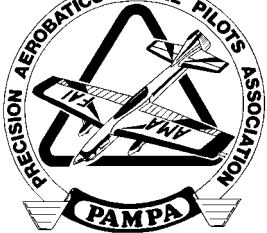
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CLPA 1951-52 (Old Time Stunt)	2.00

PAMPA RULES: Bylaws25
Old Time Stunt	1.00
Classic Stunt25
Rule Change Proposal Form25
Rules Committee Procedures	1.00

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Old Time Stunt25
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Beginner Pattern.....	.25
Old Time Stunt.....	.25
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Beginner25
Old Time Stunt25
Classic Stunt25
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Registration Forms (One per Event)25
Master Check Sheet for Head Judges25
Stunt News Report Form25
Customized Certificate Awards*	1.00

STUNT BIBLIOGRAPHY:	10.00
<i>42 Page List Chronologically By Subject of all (4000) Published Stunt Articles</i>	

ARTICLE REPRINTS: As Listed in Bibliography per Page25
---	-----

PAMPA PAMPHLETS:	
<i>Life Time Competition Records</i> by Wynn Paul (20 Pages)	2.00
<i>Master Plans List</i> by Bill Dawson (30 Pages, 600 Planes)	3.00
<i>Control Line Source Book</i> by Ralph Wenzel (14 Pages, 140 Suppliers)	2.00

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<i>Old Time Stunt Page Plans</i> by Tom Morris (84 Pages)	8.00
<i>Classic Era Page Plans</i> by Tom Morris (148 pages)	12.00
<i>Pioneers of Control Line Flying</i> by Charles Mackey (184 pages)	12.00

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	Shipping**		
	6% Tax (MI Residents)		
	Total Cost		

Mail Order to: PAMPA Products
8836 Utah St
Livonia, MI 48150-3749

Fax Order: (734) 266-7273
Voice Order: (734) 266-7273
Email: captcurt@flash.net

Ship to:

Method of Payment

☐ Cash ☐ M.O. ☐ Check No. _____

(All checks payable to PAMPA must be drawn on US Banks)

☐ Credit Card ☐ Master Card ☐ Visa

Account #: _____

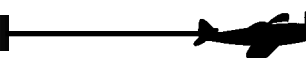
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Precision Aerobatics Model Pilots' Association

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 Nationals and conduct of the FAI Team Selection Trials.

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Stunt News

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www.control-line.org

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#	Issue	Deadline
2-06	Mar/Apr 2006	Jan 20, 2006
3-06	May/Jun 2006	Mar 20, 2006
4-06	Jul/Aug 2006	May 20, 2006
5-06	Sep/Oct 2006	Jul 20, 2006
6-06	Nov/Dec 2006	Sep 20, 2006
1-07	Jan/Feb 2006	Mar 20, 2006

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