

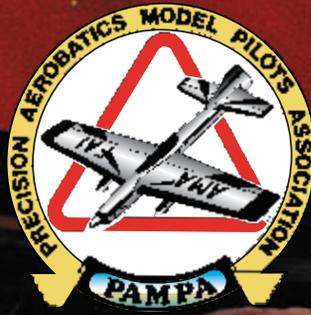
2007 Team Trials,  
Crackpot or Genius, Stunt  
Design Trends, 1957/68 NATs  
revisited, and More.

# STUNT NEWS

PAMPA loses one of its Matriarchs:  
Betty J. Adamisin 1929-2007.



Kevin '07



[www.control-line.org](http://www.control-line.org)

\$5.00

JULY/AUGUST 2007



G4M1 Betty and G3M1 Type 96 Nell twin engine CLPA stunt Bombers in Japan. Photo by Akihiko Naruse.



Bruce Hoffman of Australia and his Paul Walker P-51. Photo by Bruce Hoffman

Bruno Massara of Italy and his outstanding Hurricane. Photo by Bruno Massara.

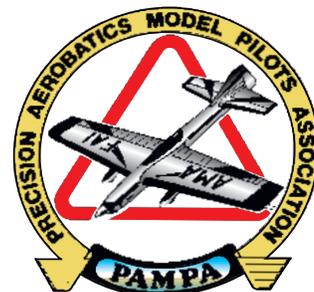
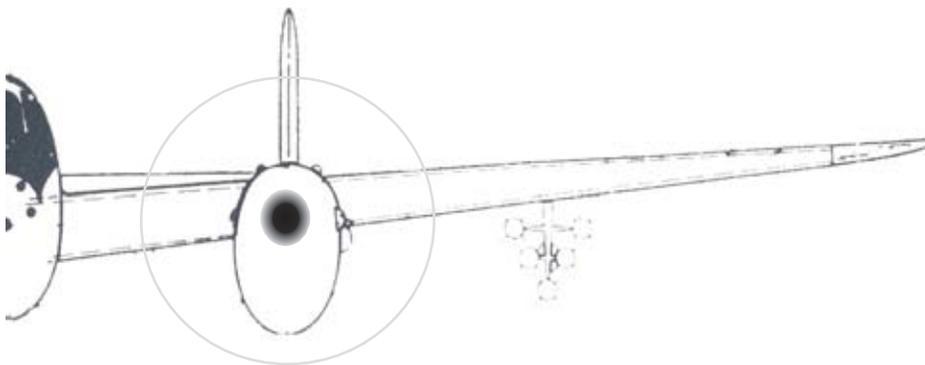


Kim Doherty of Canada's F2B electric Shockwave stunt ship at the 2006 F2B WC. Photo by Kim Doherty.



Giuseppe Casaroli of Italy and his Electric F2B CLPA ship. Photo by Peter Germann.





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NEMAC Awards Banquet from the 60's.



PAGE 20  
Jim Harris's Fox .35 powered Chief.  
Cleveland, OH contest.



PAGE 22  
John Rakes with his new Strega

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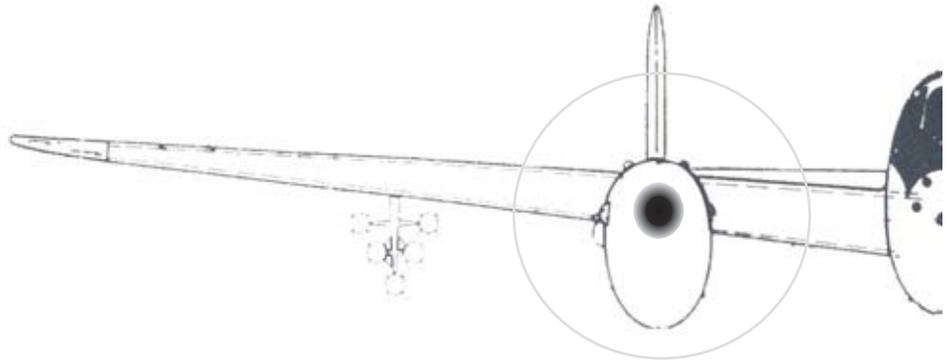
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**Cover:** Brett Buck's 2006 NATs and Walker Cup winning Infinity. Original painting by Mike Keville.

**Centerfold:** Mike Keville's Original Artwork of a Stinson SR-5 "Hot Fun in the Summertime."

**Back Cover:** Mr. Kawasaki and Akihiko Naruse with their twin engine G4M1 Betty and G3M1 Type 96 Nell Bombers in Japan. Photo by Akihiko Naruse.





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Top three in Expert at the King Orange: Josias Delgado, Derek Barry, and Bill Rich



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Bob "Sparky" Storick's new P-47 and a "looker" it is.

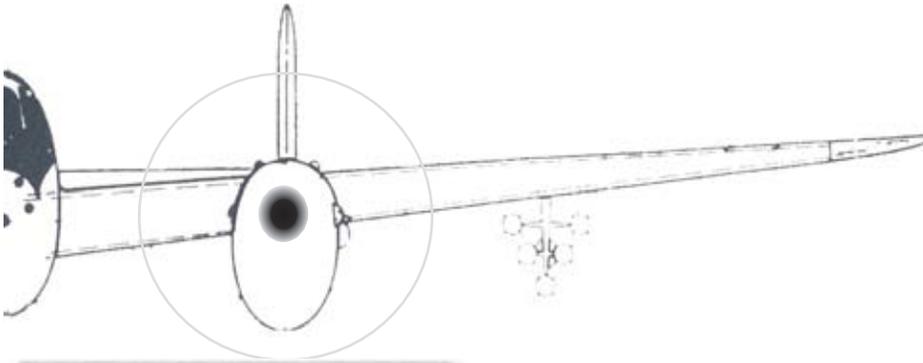


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Jim Aron whispers sweet nothings prior to winning flight



PAGE 23  
Bill Rich with his new plane, an SV-22 shaped like an SV-11.





**SPECIAL FEATURED NEWS**

**Crackpot or Genius by Charles Mackey**

**The 1957 and 1958 National Stunt Championships (One More Time Around) by Wild Bill**

**2008 World Championships Control Line Precision Aerobatics Team Trials**

Engineer  
Author  
Teacher

In 1944, Francis designed and built a canard using a composite fuselage.

In 1946, Air Trails Magazine published his article Control Line Aerobatics.

In the spring of 1946, Francis D. Reynold's article titled "Control Line Aerobatics" reached the hobby shop where I was working after school. I was only fourteen years old, but my lifelong ambition was firmly in place. I wanted to fly a control line model airplane inverted. I was ecstatic when I opened the magazine and learned my ambition was possible and that the article would tell me what I needed to know to accomplish inverted flight.

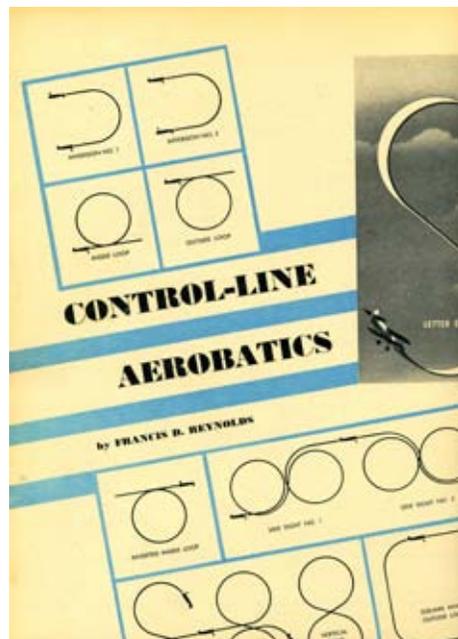
**Crackpot or Genius by Charles Mackey**

Francis D. Reynolds has been an inspiration to many of us older modelers, including Don Hutchinson. Don built a model of his Moitle Bipe plane and flew it at the VSC. We all know he is a great model airplane designer, but I doubt if anyone in the CL world knows of his many more accomplishments.

A Tribute to Francis D. Reynolds, a top contender for Father of Control Line Aerobatics. Some of his accomplishments are:

Model Aviation Hall of Fame  
2001

Inventor  
Experimenter  
Competitor



Francis designed and built a model of the first rise-off water

airplane, the French Hydravion. That airplane flew a year before Glenn Curtis's successful seaplane. It was in 1985 that I first made contact with Francis.

He supplied me with photos and information that I included in the book I authored titled "Pioneers of Control Line Flying" (available in AMA Bookstore). This was the second time that communications with Francis evoked excitement.

The third time we communicated was by an e-mail Francis sent me. He said he had read an article I wrote on 3-D flying in Model Aviation Magazine (Private Kool's Bipe, March 2006) and that he was going to take up 3-D flying. Quite a feat for a man 86 years old! Again I was excited and forwarded his e-mail to everyone I knew. When Francis began to tell me about some of his projects that he had been working on, I was absolutely amazed at his ability to make all these great ideas come into reality. In the famous words of Al Jolson, "You ain't heard nothin yet." Here is a very brief description of some of his creations:



In 1948, Francis won first place in U-Control stunt with his Moitle Bi-plane at the Plymouth Meet in Seattle.

In 1952, he designed a new sail control for model yacht racing and won the National Championship

with it.

I believe that the more popular radio-controlled freewheeling model yacht competition dropped off rapidly when radio-controlled model yacht racing was introduced. Few if any of the old South-Eastern radio-controlled yacht clubs other than Ted Hoak and C.O. Davis went into the new radio-controlled sailing game, but a handful of younger newcomers came on board. In Seattle we had C.O. Davis, years ago, and some others whose names slip my mind.

In Portland, Oregon, which was the original stronghold of early O/C racing, competitors were Bud Forthorsh, Wally Backus, and others. I can't remember that at all of the time I was on the National O/C trophy at Hestonwood point in Portland on September 4, 1956, in the nearby area we called 17A, and later at my home on the north shore of Lake Sunnyside east of Bellevue WA.

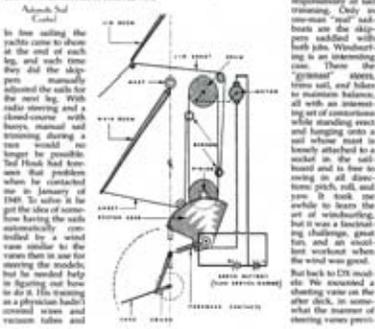


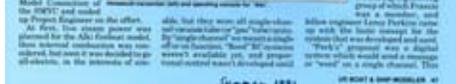
Fig. 7

In 1953, Francis designed a Wing Sail for RC yacht racing and competed with it for over ten years, never placing below third.

In 1960, Francis completed a scale fire boat model and won first place



without wires was viewed as an alternative. Francis continued to work on the model, and in the middle of the month of July, he completed it. Model Designer & Modeler magazine mentioned the model in their January issue. When Ted Hoak saw the model, he was much impressed. He had the model built for him by the Seattle Model Yacht Club. He then showed it to Francis, who was in the area. Francis was very impressed with the model, and he was very interested in seeing it. He was very impressed with the model, and he was very interested in seeing it. He was very impressed with the model, and he was very interested in seeing it.



Francis' question was answered for some time by the photo. The photo was completed, but it took months. A month or so later, the model was completed. It was very impressive. It was very impressive. It was very impressive.

Francis looked to Ted's construction description of their plane construction, but he wanted to see the model. He was very impressed with the model, and he was very interested in seeing it. He was very impressed with the model, and he was very interested in seeing it. He was very impressed with the model, and he was very interested in seeing it.

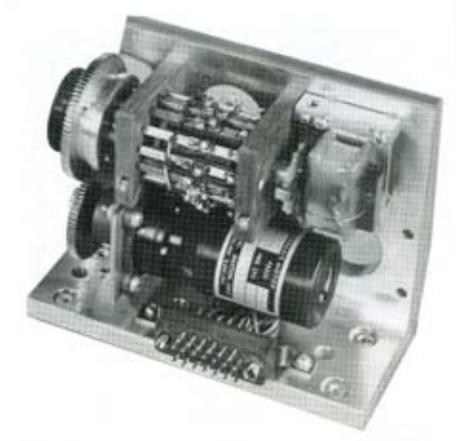
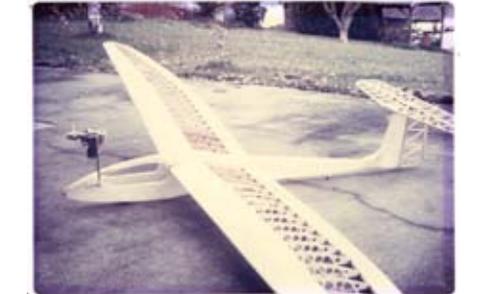


Fig. 4. Francis Reynolds' behavior. The model was called 'Wing Sail' on the BISHOP. It contained Francis' question was answered for some time by the photo. The photo was completed, but it took months. A month or so later, the model was completed. It was very impressive. It was very impressive. It was very impressive.

Francis built a replica of Boeing's first airplane, a 1916 B&W seaplane. It was featured on the cover of American Aircraft Modeler, March 1960. The girl holding the airplane is his daughter Pat.

Francis built an RC glider that featured a retractable engine.

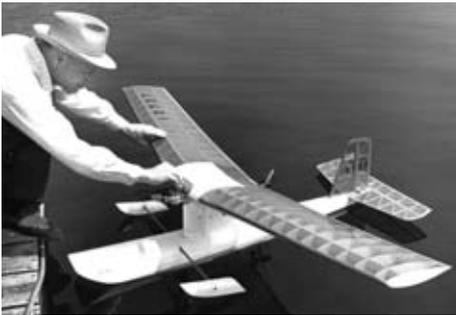


Francis built Sea Tract, an RC airplane with retractable floats that fit into the fuselage when flying.

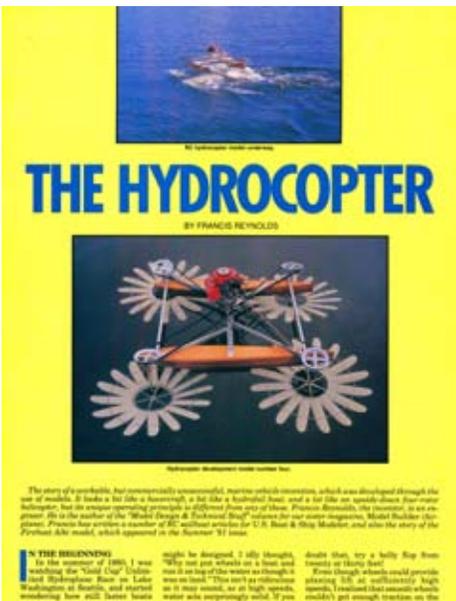
Francis built a full sized stern wheel boat that had the capacity to carry ten adults.



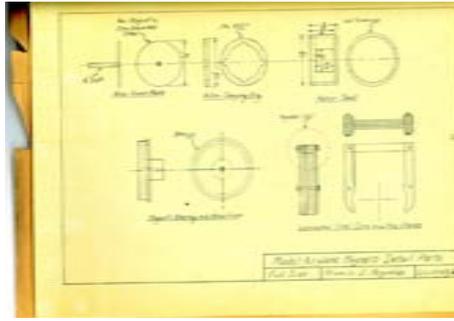
He designed an RC seaplane with floats to challenge the world's record for endurance. (He more than doubled the existing time.)



The Hydrocopter is patented marine craft that operates by turning 4 rotor blades that operate on the surface of the water. A low drag high maneuverability concept. Works best on smooth water.



In 1942, Francis designed, built and used a magneto to generate spark ignition for a model airplane engine.



That was before glow plugs had been developed.

Francis then designed and built an airplane that takes off of land, lands on the water, takes off the water and lands back on land without retracting or extending anything.



Francis built an exact scale RC model of a Manitowoc crane that used 16 channels and can lift 200 pounds. The project took 7000 man



hours. He could lift himself up with the crane and drive around his workshop while holding the transmitter. It won best of show.



He built a RC robot for entertainment purposes. It had 12 functions, could answer questions, walk, pick up things

and sass the operator.



Francis designed and built a five cylinder rotary engine similar to the ones used on WWI fighters. It was powered by compressed air and used a 16 inch prop.



He built an RC model of a snapping turtle that had ten actions and used 12 servos.

Francis designed and built an RC ornithopter (wing flapping).



## 1957/58 NATs Revisited



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billnetz@verizon.net

### The 1957 and 1958 National Stunt Championships (One More Time Around) by Wild Bill

These two events are closer to me than to most of you. Your first assignment today is to dig out your STUNT NEWS copies from NOV/DEC 2006, page 95, and from MAY/APR 2007, page 4. The reports by two significant gentlemen, Charlie Mackey and Don Ogren, who were there, are quite interesting on several levels. I'll wait here while you go do your reading assignment. There may be a test at the end of this report! Those of you who were there can skip the reading assignment.

OK, you have the distinct impression that the 1957 STUNT Event was flawed by using two circles for the open final, with two sets of judges who saw the scoring at two different levels, and then picking the winner by the best single flight. One circle's scores were at least 40 points lower than the other circle, and although George Aldrich had the best flight on both circles, the rest of us wasted a flight on the low circle. There was really no way to rectify this fluke, and the event ended grumpily. I was doing a Control-Line event report for American Modeler, (January 1958) and after I gave the

Stunt administration a failing grade, the AMA establishment volunteered ME to make the 1958 event work better! Charlie's report fairly covers the 1957 details.

Not so incidentally, the 1957 event was the FIRST time we flew the present day pattern. We were coping with the added OUTSIDE SQUARE LOOPS (2), the NEW HOURGLASS FIGURE (1), and the NEW 4 LEAFED CLOVER (1), not to mention losing the old familiar Climb, Dive, and Wingover. Appearance points went up to 40, and there was no more SPOT LANDING. One thought on the GMA pattern. It was obviously designed around the performance of a Fox 35-powered NOBLER, relative to the sequencing of maneuvers. We have chased that sweet spot for many years, folks.

My report in the November 1958 issue of American Modeler allows me to bring an inside and personal rundown of the administrative side of that Stunt event, as well as an interesting glimpse into the state of Control-Line competition during that pivotal portion of time. I was intrigued to find out that MY perceptions of that week had become fragmented, DETAILWISE, during the (almost) 50 years since it became historical.

The major change in the flying procedure of the 1958 Stunt Event to accommodate the increasing entry list was to have the flyers make two qualifying flights in front of the same judges, with the top flyers on each qualifying circle moving on to the finals. At the time, we called this "elimination". So much for Political Correctness. John McDonald was the assistant director, and we happily saw scoring details from the same point of view. We prepared our judges to meet the needs of improved pilots and planes, since they had a year to enhance their equipment, and to practice the more visually demanding GMA pattern maneuvers.

We had 16 enlisted personnel assigned to us to run the operation, pits, pull test, judges, runners, and scoring tabulation. (How many of you remember hand-crank adding

machines and pencils)? Contrary to contestants' opinions, the judges were well-trained, interested in doing a good job, as well as being totally non-biased, and unimpressed by the several halos appearing before them. John and I trained them on Monday, by flying the pattern a bunch of times, while they wrote scores, and we made adjustments to the way they scored us. We worked sunup to sundown, and completed the day with 6 judges who recorded points our way. The rest of the people were assigned the rest of the jobs. We didn't bother the judges with the dry rules in the BOOK, allowing them to concentrate on assigning numbers to the maneuvers they would be watching. We warned them to ignore "cheer leading squads" who sometimes appeared within earshot of the judges and pumped out misinformation about their hero in the circle. They were impressed with the caveat that they were to judge the "flight path" of an airplane without regard to its decorations or color schemes. Truth be told, the contestants had never been judged this well before. The remaining 10 people were briefed on their duties, and we were pretty well ready to meet the contestants.

There were 70 Open entries, and on Tuesday, we used 3 circles to qualify this group of competitors. We didn't "seed" the stars, but tossed them into their qualifying circles randomly! We also did not schedule the sequence of flyers into the pit areas. As usual, when you wanted to fly, you got ready and we accommodated you from the pit area by pull test and moving your flight cards to the judges. This procedural soft spot has been closed for quite awhile, allowing the officials to control the "FLOW". The judges' performances were carefully monitored to assure the quality of their actions. They were consistent, and were seeing flight patterns that were awarded good scores. So why was this smooth operation alleged to come unraveled? Don's report contains an interesting typo, "It was one of the most exiting Nationals that I ever attended". The brouhaha

centered around George Aldrich, and the circumstances are worthy of clarification.

George was at the top of our game, with nicely engineered kits by Top Flite, and a string of successes in the circle and in the magazines. Some time before the 1958 NATs he changed engine brands. The three people who KNOW WHY; George, Duke Fox and Hi Johnson, have all passed away. When he put in his first flight on Monday, his performance was well below his usual aplomb, and was scored accordingly. During his second official flight, the engine quit pulling the airplane fast enough to maneuver! (Charlie called it loose head bolts, and I reported a blown head gasket). It was clearly unfamiliarity with the engine that lead to the demise. (He did get it back to normal before the end-of-festivities demonstrations, and put on a good show.). Pretty soon after George flamed out, we in the administration started getting disturbing messages from the field about strange happenings in the circles. Investigations of these complaints proved that they were mostly all specious, and we were able to keep the operation moving forward. "THE Alleged PETITION" didn't show up officially, so the story about George tearing it up when Bob Randall volunteered to sign it seems valid. Anyhow, toward the end of the meet, a formal protest was finally tendered, evaluated with the CONTEST MANAGER, Pete Sotich and appropriate officials, and summarily rejected as having no merit.

The Juniors qualified on Wednesday with 24 out of 40 pre-entries showing up. The Seniors went through qualification on Thursday, with another smooth flow. Friday, we used two circles one for OPEN and the other for Junior and Senior. We had to kick start the circles because the wind kicked up to 10-18 kts, and the contestants were avoiding being first up. Once we got them moving it went OK, except by official closing time we weren't done. After an hour and a half of overtime, all but two competitors

had been accommodated, and they showed up after we really closed. Turns out they were both noted for making sure they were the last one to fly, believing the judges went soft at the end.!

I have information from reliable sources that George went to AMA and offered to quit flying competition if they would let him run the next NATs Stunt event. Unfortunately, he was unable to attend the 1959 NATs for personal reasons. HOWEVER, he did direct the STUNT event at the 1960 NATs in TEXAS, and the Precision Aerobatic event was back in a groove.

There are some other facts that bear attention. At the time period of the subject events the AMA recognized three categories of contestant, based on age only. Junior Class was up to 16, Senior from 17 through 20, and folks over 21 were in the OPEN class. Skill classes in Stunt were well down the road, waiting for PAMPA to be organized. The 1958 class champions: Eddie May Jr won the Junior event; Art Pawloski won the Senior event and Bob Randall won the Open event. THE WALKER TROPHY was contested between the three class champions. They flew on Sunday morning on a special circle, using 4 judges from our original 6. Each flyer got two flights, and they each took both of them. Art Pawloski came out on top, and the 1958 NATs Stunt event was history.

Of interest: the program of maneuvers and their scoring criteria were really fluid during the early '50s. I have a chart comparing the details from 1954 through 1957 which shows how we were adding maneuvers and changing appearance points regularly. Some of these innocent changes significantly required different airplanes! The appearance points alone added dead weight and building time, but the planes were really well-built and pretty. In 1955

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the appearance number was reduced, BUT the paint and cockpits and lettering continued to influence the equipment used in competition. The 1957 program, fathered by George Aldrich, has been in vogue for 50 years, but George never named "the Mother" and we are still trying to get it right, some of the time. Modern contest administration allows things to move along with large numbers of entries, and the added skill classes and OTS and Classic events have kept the participation at a high level.

The good news is: I've waived the reading assignment test.

I'm going away now to rest my case.

-Wild Bill



# 2008 World Championships Control Line Precision Aerobatics

U.S.A. Team Trials held September 1 & 2, 2007  
at  
A. M. A. International Aeromodeling Center  
Muncie, Indiana

## Age Classifications:

Juniors: will not turn 19 years of age until after the calendar year 2008.  
Seniors: Age 12 years and up.

U.S.A. Team: Three seniors with one alternate (alternate does not make the trip)  
One junior with one alternate (alternate does not make the trip)

Format for the Team Trials: Per F.A.I. Sporting Code Rules

Seniors: Two circles will be used for qualifying. Flyers get two flights per circle. The qualifying score is the sum of the better flights from each circle. The top ten scoring flyers advance to finals. Finals score is the sum of the best two out of three flights.

Juniors: Compete on Sunday. Best two flights out of three.

Request entry blanks from Lisa Johnson, AMA Headquarters.

Advanced entry deadline is July 30, 2007

Entry Fees: Seniors - \$100 (\$125 at the contest); Juniors - \$50 (\$60 at the contest)

Practice Times: Monday through Friday before the contest.

Pilots' meeting (and airplane processing): Friday at AMA Headquarters building

Note: It is the responsibility of the contestant to be aware of the FAI Sporting Code rules.

Some FAI rules differ from AMA rules. "FAI Sporting Code" books are available from the AMA.

For further information contact the Team Selection Committee Member in your AMA district:

- |                    |                 |                   |
|--------------------|-----------------|-------------------|
| 1. Dave Cook       | 5. Randy Smith  | 9. Jim Lee        |
| 2. Windy Urtnowski | 6. Wynn Paul    | 10. Keith Trostle |
| 3. Bob Hunt        | 7. Bob McDonald | 11. Paul Walker   |
| 4. Dick Houser     | 8. Bob Gieseke  |                   |

or Contact Wynn Paul, Chair, Team Selection Committee, tel-859-271-3394, email  
winnie3435@insightbb.com.

**2007 C/L Eurochamps****F2B Work Group**

To

- National Aero Clubs
- Judges F2B
- Pilots F2B
- E/C participants and competitors
- Subcommittee F2 members
- CIAM Delegates

May 11 2007

**International F2B Judging Workshop; Invitation**

The F2B Work Group hereby invites anybody interested to participate in an open workshop type event to be held during the upcoming European Championships in Belgrade. The F2B Workshop is scheduled to take place on the contest site and will begin **Saturday, July 7<sup>th</sup> 2007 at 10:00.**

**Agenda**

- **Recapitulation of the 2007 F2B Rule and Judges Guide. By Massimo Semoli, Italy**

Conducted on a rule-by-rule and manoeuvre-by-manoeuve basis, this will be a presentation supported by both Sporting Code manoeuvre diagrams and related 3-D illustrations provided by Keith Reneclé. Discussing this item of the agenda shall help developing a common interpretation of the current **Rule** and **Judges Guide** for the upcoming contest

- **Aspects of on-screen 3-D manoeuvre display. By Keith Reneclé, South Africa**

An illustrated lecture explaining the **opportunities** resulting from geometrically accurate 3-dimensional display of F3B manoeuvres on screen. The presentation will demonstrate what can be done today and perhaps tomorrow, and will support the discussion of future consequences possibly resulting from the ongoing development.

- **Open discussion on F2B general issues. Coordinated by Peter Germann, Switzerland**

Topics, among others, shall be: How did the new 2006 rules for F2B perform so far? Points to be modified?

Future contest format for F2B?

Participation is free of charge and no E/C registration is required to join. Those wishing to join the event, without otherwise being registered as participants of the E/C, are kindly requested to register for the Workshop alone at the address below:

Mr. Radosavljevic Ljubomir  
Vazduhoplovni Savez Srbije  
Uzun Mirkova 4/1, 11000 Belgrade, Serbia  
Phone: +381 64 138 86 11 or +381 11 2626 235  
Fax: +381 11 2625 371  
e-mail: aerolux@sezampro.yu  
www.akaerolux.com

For accommodations, kindly check the list of hotels in Bulletin 2 and make you own reservations with the address above.

Yours sincerely  
Peter Germann  
F2B Work Group Coordinator



## President's Report



### Paul Walker

25900 127TH Ave SE  
Ken, WA 90831-7933  
(253) 639-0448  
[pwimpact@earthlink.net](mailto:pwimpact@earthlink.net)

The PAMPA EC has been working on a set of revised by-laws. They have defined the individual articles that will be revised. Those individual articles are currently in work, and as of this writing I have seen the third draft version. It is hoped that the final version might be out to the membership by the September issue of Stunt News. The intent is only to clean up some of the shortfalls that exist in the current by-laws, and not change anything significant. As we are now into this seasons flying time, not much additional work with respect to the EC is being done currently.

On the NATs front, some of you may get this before leaving for the NATs. I have been checking on the status of the grass field that we use at the NATs for practice and Beginner/Intermediate flying. Allen Goff has looked over the field in May and reports that it looks good for that time of the year. I informed Warren Tiahr and he has contacted AMA, and they assured him that it would be rolled and mowed properly this year before we arrive to use it. This action was taken to attempt to avoid the issue that occurred last year, as we will have a protracted practice time this year.

On the subject of practice, that subject brings up lots of hot "tempers" at

AMA headquarters these days. It seems that they perceive this competition as a meeting of highly tuned pilots meeting to determine their champion. The key here is that they were highly tuned PRIOR to arriving at the site. Their conception of our practice should be nothing more than trying a flight just to set a needle valve. It should be nothing more than that, in their eyes. We have attempted to explain that things are different with control line PA planes as they maneuver close to the ground and are affected by many weather phenomenon. This takes some training to adjust to, and maximize the performance of each aircraft. I personally have talked to Dave Brown, and he understands, however the NATs management doesn't. I bring this up as in the future the AMA may attempt to schedule our event based on their miss-perception of our event. We will endeavor to keep things as they were, not as they are. I hope you all will have (or had) a good time at the NATs this year.

The 2007 Team Trials will be held in Muncie on September 1st and 2nd this year. The top three placing individuals will represent the United States in the 2008 World Championships to be held in Landers, France. The location will be the same as the site used for the rain soaked 2000 Championships. The format for this competition is similar to the past where Saturday is a qualifying day that reduces the field for the finals on Sunday. The scores from Saturday are thrown out. Sunday will be flown in three rounds with the best two counting. The top three will represent the US. One difference will be the number of judges. There will only be three judges per circle. This was done to be consistent with the FAI rules and procedures used at a World Championships. Come out and support the US team.

As we have seen in the past, electric powered stunt planes are here. They possess a certain charm to those who fly them. They are very smooth, very consistent, and obviously quiet. In the past, Bob Hunt has campaigned his "Bronze Dog" at the Team Trials and then the World Championships, showing that electrics are capable. At the World Championships, there were



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four entries flying electric powered stunt planes. Walt Moore and Mike Palko have flown electrics at the NATs for a few years now. Battery technology has improved dramatically as well as the electronics to drive the system to the point that now individuals in the stunt community are developing their own processors to control the power. I believe that electrics are about to explode on the stunt scene in a similar fashion that tuned pipe systems dominated the US stunt scene in the early 1990's. I believe that it won't be long until you will have to have one to compete.

Why do I say that? It is because I have experimented with electric powered stunt planes as well. I started by making a simple retrofit into an existing Impact. The weight increased to a 70 ounce flying weight. That weight however, has not proven to be any sort of issue. The plane still flies very well. If it weren't such a beater, I would happily bring it to the NATs. It



was increased to 750 square inches to deal with the additional weight. It flies at 67 to 68 ounces, depending on the tip weight, with no ill effect of that weight. The plane flies great, and I'm sold on the package! I intend to continue to use electrics in the future for my competition and sport flying. My plan is to use it at the NATs and Team Trials this year, regardless of the outcome. I intend to do a construction article for Stunt News in the future (probably next winter time frame) and outline what I have done to accommodate this power system. Watch the electrics fly at the NATs and Team Trials, and you be the judge as to how well they work. After all, that's the bottom line, isn't it? The key point here is that I am using the system because it flies better than my other equipment, not because it's quieter!

Until next issue.

-Paul Walker

flew so well, I decided to take a dive into the deep end by committing an entire flying season to using electrics. I redesigned the Impact to accommodate

the battery, speed control and processor in the fuselage closer to the CG. It has resulted in a shorter nose to keep from adding excessive tail weight. The wing



## Vice President's Report



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#### International Representatives, chapter 2

There's been a stunning response to my last column on the topic of international "districts" - total and utter silence! If anyone has an opinion, pro or con, US citizen or not, please let either me, or your district representative, know. I find it hard to believe that an opinionated bunch of stunt fliers don't care one way or the other! By the time this is comes out I will have made direct solicitations to various international PAMPA members on this topic. If you think you are a leadership type and you don't get an email, please don't feel slighted - it will just be an oversight. By all means, send me an email if you have any opinion at all on this topic.

#### Bylaws rewrite status

Things are moving along nicely with the bylaws modifications (international districts excluded). We have agreed on which articles are to be changed. Russ Gifford, Dave Cook, and Tom McClain have been tasked with coming up with a draft of the actual wording. I have been monitoring the effort and it's looking very promising. It is of note that Dave was also in on the initial stages of the Brodak rewrite, until, uh, circumstances, intervened. I would expect that we would get something for the entire EC to review in the very near future.

I think everyone who has expressed concern over this effort will be pleased. The scope of the effort is somewhat limited compared to the previous attempt. Basically it's a function of cleaning up the language and incorporating "lessons learned" over the years. No major changes in focus or concept are planned.

#### Electric Stunt and Conspiracy Theories

Although I should probably know better by know, I am surprised at a few comments I have heard about electric stunt.

There are a few variations, but the essence of the theory is that electric stunt is some sort of nefarious plot to foist expensive and complicated new technology on the event, to supplant the "correct" way of flying stunt planes, i.e. glow motors. It's much the same sort of argument we had when tuned pipes were beginning to become popular - and curiously enough, some of the players are also the same. World and National Champ Bob Hunt was the leading innovator in both cases. Although I know Bob will take pains to give credit to others (Dean Pappas, Mike Palko) for the underpinnings, the fact remains that unless he (or someone of his caliber/notoriety) had been willing to take the first step we'd probably still all be trying to figure out how to get decent rings for our ST46s.

I am not sure what is driving this current theory. It's my opinion that stunt fliers are notoriously conservative and tend to distrust new or non-traditional developments. I still hear people who wax poetic about the good old days of the 50's and 60's and how quiet and slow the airplane were compared to the current "frantic pace" of TP and 4-stroke planes. Never mind that in actuality, 50's and 60's models were generally inconceivably noisy and some were absolute bullets in the air compared to current planes - we like our golden (if flawed) memories.

Some of the leading explanations (and I use this word advisedly) are that the FAI is pushing this in order to meet draconian European noise standards. It has even been suggested that the current FAI rules changes are intended to favor electrics to the point that it makes IC motors obsolete. The current proposal to remove K-factors is pointed to as

"evidence" - since reducing the weighting towards square maneuvers supposedly helps "overweight" and "bad-turning" electric planes. Of course, the US has been lobbying to remove the K-factor for the better part of 3 decades, the European FAI representatives tend to want to keep it, and in any case electric stunt has only been viable for maybe 4-5 years! Not what I would call a "smoking gun". And I also would point out that most of the AMA winning airplanes in the past 20 years are not exactly featherweights, and we have had "flat" scoring all along.

Another argument is that there is some contingent pushing "complex technology" to prevent the "average joe" from ever being competitive - the old "elitist" argument. Near as I can tell this is just a knee-jerk reaction with no basis in fact. Most of the electric systems I have seen or heard of are pretty much standard off-the-shelf RC stuff that's widely available. There will undoubtedly be things to know about it, but as near as I can tell it's FAR simpler to set up an electric and get it going reliably at a competitive level of operation than it was to get a ST46 or ST60 working competitively. You buy the parts, put on a decent prop, charge it, flip the switch, and set the speed. It will work the same way every time, time after time, with no fiddling at all. That doesn't seem all that complex to me - compared to what we used to go through back in the day.

In short, neither argument makes much sense at all.

#### Why do I mention this?

The reason I bring this up is that I can sense exactly the same sort of reaction to electric that I did when tuned pipes came along. We all know how much benefit we all got from the "ST60 vs. TP" wars of the early 90s. Heck, that one is STILL being argued and has been one of the most damaging episodes in the recent history of the event. I fear that the same sort of controversy is about to be cranked up over electric. I URGE everyone to actually think this through before forming up into warring camps bent on destroying each other.

I would just hate to see us get into another silly argument over this. Please be tolerant.

-Brett Buck

## Editor's Report



### Tom McClain

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**S**tunt News is sad to have to report the passing of Betty J. Adamisin, 1929-2007. Our hearts and prayers go out to the Adamisin family at this time of great loss.

Hello again from beautiful Sun City, AZ. This issue I have six things to discuss. Those are the Capitanellis' marriage rededication, two missing names in the Membership Reference Manual, Safety concerning control line reversal and carbon fiber propellers, the ongoing PAMPA Bylaws revision, problems with the US Postal Service, and a picture of the past. First, The Capitanellis' marriage rededication down in Tucson, AZ.

Midway through May of this year, Sheryl and I traveled by motor home to Tucson, AZ to the visit the Cholla Choppers, review their preparations for VSCXX, and attend the Capitanellis' marriage rededication. I am happy to say the Choppers are well on their way in preparing a great VSCXX. They have found a wonderful hotel (Viscount) for the Banquet and the former Rodeway Inn, now the Quality Inn, is under new management and far down the path of a major renovation. The Quality Inn renovation will be completed in time for VSCXX, according to the management, and it will have new beds, baths, TVs, wallpaper, air conditioners, carpet, and

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more. As I did this, Sheryl and I also participated in a very joyful event in the Capitanellis' life.

The Capitanellis' marriage rededication was a special event that Peg and Ed invited many of their friends to. They had a Catholic priest go over their wedding vows again. It was wonderful and then they had a very tasty catered dinner for all. Thanks Peg and Ed for inviting Sheryl and me to a special time in order to celebrate your five years of wedded bliss.

The PAMPA Membership Reference Manual is now out with the May/June 2007 issue of Stunt News, but it has two names chopped off during printing process from the State/Zip code section. Those names are Tom Thornton of Appleton, WI and Dave McCracken of Ona, WV. Please annotate your reference manual on pages 31 and 32 to correct this. Stunt News apologizes to Tom and Dave for this omission.

Safety has reared its head again lately among control line aerobatic pilots in two ways. First is control line reversal and the second is carbon fiber propeller blade failure. Keith Trostle has written a great column in Safety on control line reversal, why it happens and how to prevent it. This is an insidious problem and one that can be easily prevented. But, if you say you won't do it, don't worry, you will. I admit that I have experienced it three times since I started control line aerobatics in 1998. In all three incidents, I have been fortunate in that the three ships had tricycle landing gear. The first two ships went off

of the concrete takeoff strip and the grass killed the engine and ruined the propeller. The third ship was my B-26 and I caught the mistake before it was released for takeoff as I cycled the elevator and saw the problem. All three incidents were due to a break in my usual preparation routine.

Carbon fiber propellers are wonderful, but I recently destroyed my new CA-15 Kangaroo profile stunt ship when a blade broke off of the three blade propeller in flight. The out of balance propeller vibrated the Kangaroo into splinters. Post mortem examination the failure was due to a crack in the root of the blade. This occurred because several weeks before I did not do a thorough enough examination of the entire propeller after a takeoff ground strike. The Kangaroo nosed over when grass grabbed the landing gear and nosed the plane over causing the propellers tips to hit the ground. I checked the propellers tips and blades for damage, but I should have removed the propeller and examined the hub and blade roots. I believe I would have found a crack in the blade hub root and subsequently I would have removed and disposed of the propeller. I believe we all need to be more rigorous about our safety approach to carbon fiber propellers.

Recently, Dave Cook, Russ Gifford, and myself have been working on revising eight articles of the PAMPA Bylaws. Articles I, III, IV, VI, VII, VIII, IX, and XII are under review and revision. This process has progressed quite well and should be finished soon and the results given to the PAMPA Executive Council for their review and





further revision if needed. I believe by late summer, we should have a final version ready for vote by the PAMPA membership.

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**O.S. .35-S** Rework includes: 1. Deburr the factory port burrs, with a rubber tip Dremel tool, 2. Then I send the piston out to be heat-treated, (which also expands it slightly), 3. Then I hand-lap the piston to the cylinder using a very mild lapping compound, 4. I install a custom made stunt venturi, 5. I install Allen Screws. These motors will 1-flip start, every time! If you supply a NEW motor the cost is \$75 (I CANNOT rework a used .35-S) If I supply the motor = \$125

**McCov .40 Red Head** Rework includes: The weak link in the Mc.40s was the soft, "sintered" iron piston, which lost compression quickly, and would not allow use of a muffler. 1. I send the piston out for heat-treating (which also expands it slightly), 2. Then I hand-lap the piston to the cylinder using a very mild lapping compound, 3. I install a custom made stunt venturi, 4. I repaint the red head, 5. I install allen screws. These McLayed, 40s have the strongest 2-4 break of any motor I have ever flown. If you supply a NEW motor the cost is \$70. If I supply the motor = \$115

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Speaking of membership, we continue to experience glitches with the US Postal Service with regard to Presort Standard or Business Bulk Mail. PAMPA members who pay \$35.00 a year for Stunt News get theirs delivered Presort Standard or Business Bulk mail. If your address is incorrect in even a minor way such as dash, period, slash, comma, etc., the USPS will not attempt to deliver the magazine. They consider it "Junk Mail" and will dispose of it. For First Class and above mailings though, the USPS will attempt to deliver the magazine and usually do. That is why many of you have few problem with getting letters. So far, Shareen Fancher and

I have identified over 15 PAMPA members with this type of problem and the fix was to make certain of the proper address. Therefore, if I may suggest, please upgrade your PAMPA subscription service to First Class. For the price of a cup of coffee once a month you can upgrade your subscription to First Class and insure delivery of Stunt News in less than a week instead of 4 weeks or possibly not receiving it at all.

Finally, I have a picture of an unknown AMA official and top flyer examining a control line stunt ship. This picture was provided to me by Marion Davis and it is for all to guess who is the official and what airplane he is holding as well as whom it belonged to plus where was the picture taken and when. Answer will be published in the next issue.

Keep Flying and God Bless,

-Tom & Sheryl McClain



## Membership Secretary



### *Russ Gifford*

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Continuing from last month, there are no apparent problems with using Stunt News to acquire for some new members. Paul has given us the OK to use the back issues that Curt Nixon has been storing. One of the problems of concern was whether

using these back issues would harm Curt's sales of PAMPA products. I called Curt a few days ago to see if he would be at the Chicago contest on Memorial Day and if so would he bring a few hundred pounds of those SNs. Curt said he was going to one of the East Coast contests as he had a job needing his attention there. We talked a bit about using the SNs this way and he explained that there were actually not many in sales of the back issues, most sales were from folks trying to make up missing issues for their collections and it doesn't amount to much.

He said there are pallet loads of these things and further that he needs to get rid of a bunch of them to make way for a new Bridgeport Milling machine. With that bit of news my concentration got badly sidetracked. I'm thinking how many more friends Curt is gonna have when the word leaks out. Is anyone interested in a SN article on cutting metal? Besides me that is?

Back to what I'm supposed to be writing. Curt is going to ship a pallet of SNs of his choice for us to start on. We'll make up a cover sheet and bunch them in 6 issue bundles for

CDs and clubs to use for whatever purpose they see fit. A couple things to note, we can't choose particular issues and we need to request a small charge plus shipping. Remember, we have no budget for this.

Now what is needed is a list of contacts of those who might be interested. If you are or if you know of folks that might be willing to do some of this let me know.

I want to thank Jim Thomerson for helping with some suggestions in this endeavor.

-Russ Gifford

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## District 1 Report

Connecticut, Maine, Massachusetts,  
New Hampshire, Rhode Island, Vermont



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Guerry Byer,s ARC Cardinal Profile ^ LA .46 power.

N.E.S.T. is getting ready for the 07 flying season. A lot is going on, we have three contests scheduled - one Memorial week end at Wrentham, one in August in Lee, MA and one back in Wrentham Labor Day weekend. I have not heard about Dave & Sharon Midgley's Hampton Beach, NH meet yet.

A lot of building going on, Dan Fish has double size Ringmaster with a ST 60 in test flying. Will Moore has a new Electric underway. Rick Campbell, Bill Hummel and Steve Yampolsky have a joint project going - 3 of the same design but with different power plants. Dave Blasanak has some new stuff in the works and Bill Suarez has been doing a lot of experimenting and testing.

Soap Box - CLPA is competitive sport steeped in 60 plus years of building and flying tradition (I emphasize building and flying). Like



Dan Fish's Godzilla Ringmaster- ST .60 power.

any competitive sport, the top builders and pilots have a following to admire their accomplishments. Turning out spectacular kit or scratch built airplanes and then flying spectacular patterns with them is the very basis of the sport. This essence involves the look, the sound and the performance of a 19- or 20- point stunt ship cranking through a 500 + point pattern. Now that turns people on and it has a special meaning to a true stunt junky.

Now along comes the ARF and in a few hours (instead of months) you are in the air, with a good looking airplane flying the pattern. In the air it is hard to tell the difference between a "19-pointer" and Monokote special. The sport is moving that way. We will probably always have super builders in the sport but the ratio between build and fly vs. assemble and fly is definitely changing. What the full effect will be on the sport is anybody's guess, but we need to pay attention to it. Now some top builders are showing up with ARF's and ARC's. ARF's are here and they will only get more numerous. What bothers me is nobody has really put forth a solution to the issue of the BOM rule. Application of the rule has been in question for years with the preceived "cheating" issue and now, with the advent of ARF's and ARC's, some contests are waiving the BOM rule rather than dealing with the

controversy.

How do we handle this? There is talk of putting the ARF's into their own class. With the availability and selection of ARF's, it may become the dominant class and the traditional kit or scratch built airplane will be relegated to minority status or maybe only at the Nationals.

Let's face it, building an 18- or 19- point stunt ship from scratch is an arduous task. It involves many years of work to develop the necessary skills. Even if you have the skills you may not have the time, due to family and job commitments or you just may not want to.

It would be good idea for PAMPA to put out a questionnaire, in Stunt News or set one up on the website, asking our members what skill class do they fly, what type of airplane they fly, what they build and what they would like to see done to help promote flying in their local area. This would be a valuable planning tool and a good reference for member recruiting.

My guess is that about 100 to 200 of our members are top notch kit/scratch builders, and the rest are just as passionate, but settle for quickies, ARF's and profiles just to stay involved.

Well that's about it for this month. Tom McClain, Russ Gifford and I are working on the PAMPA Charter and I have to get going on that. Also, I need

to make up the Photo certificate awards for The NEST spring contest. We have got this process down pat and will share our details if anybody is interested. They are a lot cheaper than hardware and seem to be very well received.

Photos this month include a nostalgia moment from the early 60's at the New England Model Aircraft Council banquet that around 300 people attended. Good food and all kinds of awards. From left to right, Fran Mitchell, Roy Tucker, John Ross (Dist I AMA VP), Art Schroder (MAN Editor I think), Lou Andrews (Hall of Fame), Art Laneau (Ambroid VP), Dave Cook (NEMAC President). Fran Mitchell got an Award for the best RC, Roy Tucker for Best Scale (8, XB35) and My XI for the best Stunt Ship. The awards were based on contest record, appearance and innovation. NEMAC was a council of 19 clubs in the New England area that organized contests including Weymouth Naval Air Station, MA (the 2nd largest meet in the country), did training in both RC & CLPA judging and generally promoted model aviation. I also included a picture of NEMAC's Mall show that was held each year to generate interest in model aviation.

Will Moore sent a picture and stats on his new twin electric stunter. It is modeled on a WWII German fighter designed as an experimental twin secret fighter fully camouflaged and ready to be the baddest and fastest aircraft of the conflict. Wingspan 63",



NEMAC Mall Show from the late 50's.

area 700 sq. in. including flaps. Target weight 70 oz with fuel (battery). Dual Hacker Outrunner motors delivering up to 800 watts, (more than enough power with a 4600 miliamp Li-po battery), counter rotating static adjustable pitch three blade props 10 1/2 in. x 4 in. to 8 in. pitch or 2 blade 12/6 APC electric counter rotating props. Uses three speed adjustable custom timer with slow ramp up for realistic takeoffs.

Rick Campbell sent a picture of his reworked Nobler, looks good.

Till next issue.

-Dave Cook



Rick Campbell's reworked Nobler.



Will Moore's twin electric stunter.



NEMAC Awards Banquet from the 60's.

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## District 2 Report

New York, New Jersey



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The news this cycle is how many District II pilots have added ARFs to their air forces. Without an actual head count, it looks as though over half the G.S.C.B. and Bill Hummel's group are enjoying ARFs. It's taken off like a firestorm and promises to grow exponentially.

Mike Ostella has several that he's put a full dope finish on, including his Strega prototype that was developed by Mike, Tom Hampshire, and Doug Benedetti, in a great team effort. Bill Hummel has a good flying Score, and so does Billy Suarez. Bob Lampione loves his Score, and everybody seems to have a Nobler or Brodak Cardinal—they appear everywhere. As this was being written, Bob was going to build his Strega at Mike Ostella's shop and take advantage of all the little tips that Mike has developed building the ARFs in his air force. District II modelers are having building sessions at several shops—Mike's shop has become the "NASCAR Garage" of ARFs!

Ron "The Deli Guy" Testa has fallen in love with his Smoothie, and it's served his modeling needs perfectly. Reuben MacBride has a beautiful Top Flite Nobler ARF in his extensive air force. He makes a valid point that most fliers modify their Nobler ARFs to suit their

expectations. Woody Midgley, the beloved "Pit Boss" of many recent NATs, has assembled ARFs of many designs for himself and several others whose building time is limited.

Both Mike Palko and Will Moore have ARFs powered by electric motors, and that power option seems to be growing by leaps and bounds. I've seen a few, like Mike Ostella's Smoothie and Nobler, that have beautiful dope finishes and even ink lines! Some ARFs, like my Brodak Cardinal, have been repaired so many times, it's really amazing.

Brian Manuet is taking a Strega ARC and putting a dyed tissue and dope finish on it. He said that he sanded everything and took off almost three ounces of raw wood from the parts, hollowed the inner tip and top, and rounded off the leading edge of the wing before he applied the tissue.

We have enough ARFs in District II to consider having unique events. How about this: Everyone flies someone else's model or the same model—you pick the model you fly out of a hat. Sounds like fun, doesn't it? In our last World Championships, several of the models were made in Ukraine and were very competitive. Some modelers treat contests like F2B with very high levels of competition. It can be competitive...but it can be fun, too. Why not both?

Everyone has pet updates for their Nobler, Oriental, Score, or Strega. Lots of options, lots of room to be creative for modelers with limited time. We have several modelers worldwide retrofitting their ARFs with aftermarket control systems, custom finishes, carbon fiber fuel tanks, and even tuned pipes, like Billy Suarez.

Jose Modesto loves his Ukrainian Shark and prefers to fly it without paint to keep the weight down. The ship breaks down easily and can be flown without any paint at all, if you choose, or you can do a beautiful finish like Orestes Hernandez has done. He was the first one to fly one in the WalkerCupFly-Off—congratulations, Orestes! Interest in Stunt has grown significantly in District II, thanks in part, I think, to the availability of ARFs of all types and designs. More

are on the way, too.

I really do enjoy building complex models with innovative features, such as carbon fiber bodies and wings, and I really do enjoy buffing out my Brodak clear. On the other hand, I also enjoyed the Saturday it took me to build my Brodak Cardinal ARF, and even better was the day I built my Strega ARF. Brian Manuet recently crashed his Cardinal, his last full-size ship, so I invited him out to fly my Strega ARF while I evaluated trim changes. He decided it would be quicker to build a Strega ARF than to fix his Cardinal, and cheaper, too, when he factored in the finishing materials for a re-paint.

I've even heard a rumor that there will be a twin-engine Strega ARF on the contest circuit locally. I can't say any more—I'm sworn to secrecy. Rich Oliver's ARF was extremely competitive when I visited Texas in 2006, and Frank Williams had a smaller version that flew very well. We all got to fly the ARF—that's always an enjoyable part of the sport that we love. In a way, ARFs seem to put some of the fun back in the sport. They've brought me back to a simpler time and rekindled a lot of great memories. Maybe they'll do that for you, too.

George Waters has made real progress on his A-26. He was at the shop to display progress, and it looks great! It's close to the anticipated weight of 75 oz., but he hasn't chosen a paint scheme yet. If you have any documentation to share, please send it to George. As many know, I love twins, and this one has my pulse up and made me start thinking of others I may want to add to my air force now that I'm semi-retired. (That means that now I work only 12 hours a day!)

-Windy Urtnowski

## District 3 Report

Ohio, Pennsylvania, West Virginia



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After several offerings to the Stunt Gods winter is finally over in District 3. I've been out flying a couple of times so far. Not to rusty.

I hear the Cleveland, Akron & Sharon clubs have been out flying a lot.

One of the clubs I belong to is the Akron Circle Burners. Bill & Joanne Capinjola are doing a great job in getting both new & rethreads back flying control line. They have a nice flying site and are trying to get

funding needed for a paved circle. Donations are graciously accepted & tax deductible.

Till next time.

Fly Stunt,

-Patrick Rowan



Don Sopka's Nobler at Cleveland, OH contest.



Carl Lovin's Jamison OTS at Columbus, OH contest.



Frank Zabadske, Nelson Erbs & Ron Lutz in the pits at Columbus, OH contest.



At the Toledo, OH Trade Show. Joe Peters on the left & Joe Eldon who lives in the Bahamas on the right of John Brodak.



Ron Lutz holding his Strega .40 at the Skylarks of Sharon, PA Fun Fly.



Jim Harris' Fox .35 powered Chief. Cleveland, OH contest.



Wayne Buran's Oriental at Brodaks contest.





Clyde Ritchie's Xceeder LA .46 at the Western PA Stunt Champs contest.



This is my Destroyer 46 on the paint stand. One more trim color then the paint stencil, Ink lines & 2 coats of Dupont Nason 2 part Auto clear.



The Destroyer 46 cowl ready for finishing.

## District 4 Report

Delaware, Washington, D.C.,  
Maryland, N. Carolina, Virginia



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Hi, all,  
Not much has happened since the last column! We did visit with several great guys at Winston-Salem, NC on May 12th as Howard Shenton called together a Fly In for combat guys. Kent Tysor, Jim Morris, Bill Mandankis, and a few more showed up with stunt planes and made use of the paved circles at Hobby Park. Hobby Park is one of only two dedicated C/L sites that I know of in NC, the other at Waymer Park in Huntersville. I am not aware of any sites in SC, or if there are any other sites in our District that have dedicated flying circles. Please let us know if you do know of any in District 4.

We have the first meet of the year that I am aware of in District 4 coming up in June on the 1st, 2nd, and 3rd at the MCLS Club field in Huntersville. All stunt events are flown plus some racing, and scale! The site was repaved last October and everything is really great there for contests and general flying. I hope I will have seen many of you there!

I will be attending the NATs, and the October Huntersville meet, plus maybe one other meet this year. I recently found out that my job will be changing which might make it much easier to get to other parts of the District. I certainly hope so.

Looking forward to hearing from the members in the District, and wishing everyone a great flying season! By the time we are actually reading this, the NATs will be upon us! GOOD LUCK, ALL!

Some pictures submitted by Willis Swindell will follow.

-Bill Little



Steve Fitton's Time Machine



Willis Swindell's Strega and the Twist Head K&B 61



John Rakes with his new Strega



## District 5 Report

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



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Well, it's that time again and this month I've actually got some local contests to report on. Back on March 31st and April 1st the KOI was held in Starke, FL, hosted by the X-47 flyers club. There were two paved circles for officials and plenty of room on grass in the rear for practice.

Saturday had four scheduled events, Basic, OTS, Profile and Classic. Frank Wyatt was 1st in Basic and Dee Tison was 2nd. Classic had eight entries, with Gene Martine finishing 1st with a very nice Lark, Bob Dixon was 2nd with his red Nobler and Bud Wieder was 3rd with a Cavalier. Both of these events were flown on the circle nearest the trees and I can say from experience that it got interesting at times.

Over on the other circle, OTS had me in 1st, Dennis Toth was 2nd and Watt Moore was 3rd. Profile had the most entries with twelve. Derek Barry was 1st, Don Ogren was 2nd and Louis Rankin was 3rd. Everything ran smoothly, only the shifty winds prevented it from being a perfect day.

Sunday morning started out much cooler than Saturday, but warmed up nicely as the day progressed. On the grass circles Beginner was won by Doug Morris and Phil Coopy was 2nd. There were eight entries in Intermediate. Tom Morris finished 1st, Robert Willis was 2nd and Try Pinner was 3rd. Both of

these were judged by Don Thibault and Dale Miller.

There were seven entries in Advanced with a quickly improving Louis Rankin coming in 1st, William Davis was 2nd and Eric Viglione was 3rd. Tom Weedman and Chuck Feldman were the judges. Of the eleven in Expert, Bill Rich was 1st, Derek Barry 2nd and Josias Delgado 3rd. Lynn Weedman and Allen Goff were the judges.

As is the KOI custom, the top three flyers in Expert got one flight each in front of all the judges to see who would win the KOI perpetual trophy. Derek finally won his first KOI with Bill and Josias close behind, there were less than six points between 1st and 3rd. It would have been closer, but Bill got hit by some nasty air in the middle of his square eight.



Ken Cerny with a beautiful Super Ares



Bill Rich with his new plane, an SV-22 shaped like an SV-11.

Once again the X-47 crew did a good job and we were all on our way home at



Top three in Expert: Josias Delgado, Derek Barry and Bill Rich.

a reasonable hour. They also had a local Boy Scout troop serving breakfast and lunch both days, which was both good and convenient. This is a contest you should try to make if you get the chance. Here are a few pictures from the KOI.



Chuck Feldman signals for an official flight in Old Time, with Toby Acierno assisting.

Fast forward to this last weekend, May 19th and 20th, the Cobb County Sky Rebels held their spring meet in the Lockheed parking lot in Marietta, GA. The weather was nice both days, though a little breezy at times on Saturday. The turnout was light both days, but those that came had a good time.

Nostalgia (25 year rolling cut-off date) OTS and Profile were flown on Saturday. Old Time only had two entries, with Tom Weedman finishing 1st and John Rewis 2nd. Profile had six entries, using an Excalibur, Derek Barry came in 1st, Stan Powell flew an Imitation to 2nd and Louis Rankin used his Oriental for 3rd. There were five flyers in Nostalgia. Bob Dixon took 1st place, which also earned him the John Brock perpetual trophy. Gene Martine was 2nd and Louis Rankin was 3rd. Rob and Bill Gruber judged Profile and Nostalgia, while I believe Tom Dixon and Richard

Schneider judged Old Time.

On Sunday we had the four Pampa classes. In Beginner, Davis Shad was 1st, in what I was told was his first contest, John Rewis was 2nd and Dee Tison was 3rd. Intermediate had Ronnie Thompson in 1st, Bill Medders 2nd and Jim Catevenis 3rd. Bill Gruber and I judged.

Advanced had Louis Rankin in 1st, Marshall Busby in 2nd and Tom Weedman 3rd. In Expert Derek Barry was 1st with his new Evolution, Bob Dixon and Crystal were 2nd and Gene Martine 3rd with his Staris. Rob Gruber and Ronnie Farmer judged. Nancy Gruber and Wade Osborne were the tabulators and, as usual, Tom Dixon was the CD.

Til next time, see you at the field.

-Dale Barry



Dee Tison with her 3rd place Beginner trophy



Tom Weedman's Profile, OTS and Nostalgia models.



David Shad and his Smoothie, 1st place in Beginner.



## District 6 Report

Illinois, Indiana, Kentucky, Missouri



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The following shots were taken at the VSC this year, the Ice-O-Lated in late February at Buder Park near St. Louis, at the Polk City, Iowa contest and two shots from Dexter, MO. Please enjoy our District VI members and surrounding friends.

-Allen Brickhaus



Jim Kostecky's Formula S is still hanging in Schaeffer's Hobby Store in southwest St. Louis.



See here is an example of the shirts worn by members of the Saint Louis Yellow Jackets Model Airplane Club as sponsored by Art Schaeffer and his hobby store in the 60's and 70's. The club is now defunct, but the display is great. A Tucker Special wing tip enhances the shirt.



Rich Raftery is a dedicated club member of the Lafayette Esquadrilla and assisted me with the publication of the Laird Super Solution in Flying Models.



Gary Hajek, Bill Marvel and Bob Arata are hard working members of the St. Louis Lafayette Esquadrilla.



Charles Fowler of Toledo, Illinois often attends the local contests in District VI.



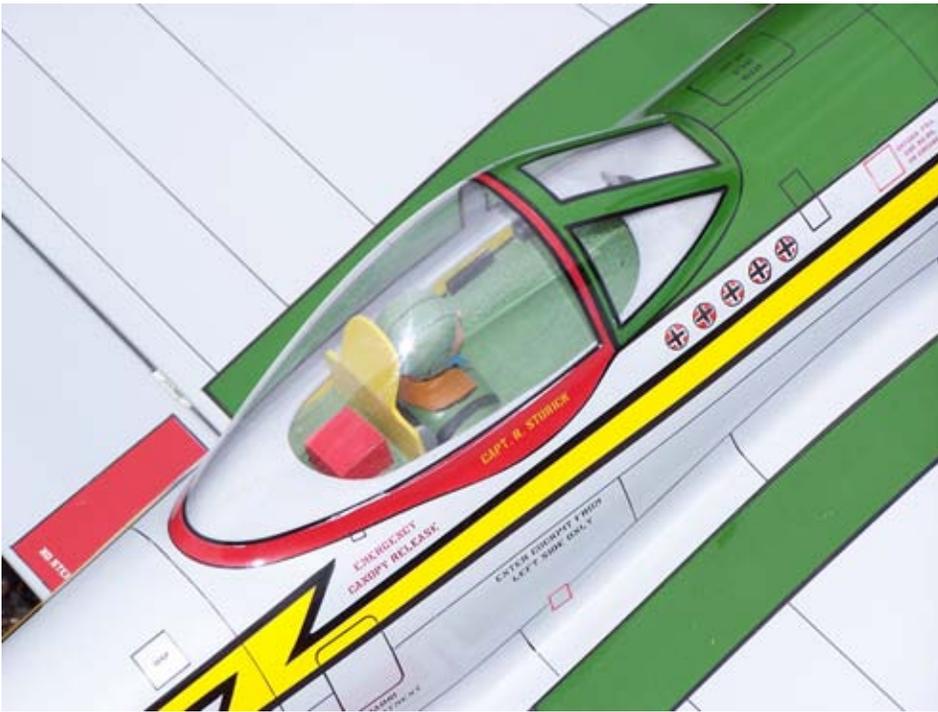
Willow Gregory, "Doc" Holliday and Emerald Dennison attended the Ice-O-Lated contest in St. Louis in late February.



Bob "Sparky" Storick's new P-47 and a "looker" it is.



A mechanic's ground-eye view of Sparky's new Thunderbolt is indeed a fine look-see.



The interior canopy area of Sparky's new P-47 is as well done as the exterior.



Jim Thomerson, former District VI member, Warren Tiaht and Bob Lipscomb take in the sun in Tucson this past March.



Steve Smith is being assisted by Charles Fowler.



Roy Trantham at the VSC 19 in Tucson this year.



Keith Sandberg, of District VII normally attends the Polk City event, but his wife's birthing of a new daughter kept him from Iowa. Keith, you have to get your priorities straight. I am kidding.



Frank Beatty, to the left, is helping Bob Arata, to the right, with the awards at the Ice-O-Lated.



Larry Lindburg of Galva, Illinois attended the Polk City contest in early May. He is flying a .25 powered Midwest Magician in the windy weather. We had 15 to 30 mph winds on Saturday during OTS, Classic and P-40.





Crist Rigotti, as shown here with his Jamison, Larry Lindburg and this columnist shared a suite in Ankeny to save costs on the trip. Gary Hajek is normally one of the room mates, but he could not attend this year. Sure helps to share driving time, gas bills and hotels stays to make the trips more fun and cost-effective.



Lew Woolard ties Allen in one round of OTS in Polk City. Lew is always a threat in OTS and Classic.



Michael Schmitt, of Gurnee, Illinois brought two models to the Polk City event. Michael is helping me with a profile Encore 40 project for an upcoming FM article.



Randi Gifford and Bob Brookins take on judging duties in P-40 on one of the two nicely groomed circles near Polk City.



Allen brought a DS 50 powered Humongous to the Des Moines area contest.



Bob Baldus works so very hard to accomplish a well-run contest in Polk City and passes the test.



“Doc” Holliday and Emerald Dennison (granddaughter), also made the trek to Iowa for the early May contest.



Jack Duffie, who flies with Steve Moore in Dexter, MO, is shown with his control line stable.



Dennis Vander Kuur brings his Pathfinder to Polk City and wins P-40 Expert. Nice flying, Dennis.



Denis Downs of the Schaumburg, Illinois area takes the drive to the Des Moines area.



Steve Moore has joined the Dexter club and now has a grass circle on the Dexter airport model airplane site.



## District 7 Report

Iowa, Michigan, Minnesota, Wisconsin



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Hi everyone. I trust that you're getting in some good flying by now. As I write this in the 2nd week of May, the weather is finally getting nice enough, but the wind is still pretty stiff at times. I bought a new flight box which is actually a fishing tackle box. It is a Plano 758 and I cut the dividers to the sizes I felt that I needed. My last one lasted 5 or 6 years. This one is a bit larger. Let's look at what's coming up as far as contests in the area.

The first one is 7/1 and it is held in Sugar Grove, IL. Rich Tupper is the CD and can be reached at 630.985.8518.

8/26 is the Rockford Stunt contest held in Rockford. Art Johnson is the CD and his phone number is 815.398.3490. It is always a nicely run contest. Don't miss it.

9/2 is back in Sugar Grove and hosted by the Treetown Modelaires. Bill Calkins is the CD and can be reached at 630.466.1531

9/9 is held by the Peoria Area Wyreflyers held in Peoria. Russ Gifford is the CD and you can call him at 563.259.1649. Profile and OTS will be held on Saturday and PAMPA will be on Sunday.

The Mid-Iowa Control Liners held their annual contest the weekend of May 6-7. Bob Baldus is the stunt CD and he and his crew did an excellent job of running the contest and the circles were groomed very nicely. It was very windy,

but we managed to get in 2 rounds of P.40, OTS, and Classic. There were only a couple of mishaps in at times some very nasty winds. Bob will report on the results, so watch for them in the contest section. A great lunch is included for all the flyers. I believe there were 29 pilots registered for all the events. Sunday was not to be because it rained with thunder and lightening. It was decided to call it a day and draw for the raffles. After that we all said our goodbyes and got home early.

I do intend to run again for your District Director. It's been a pleasure serving this District and I'd like to say thank you for all your support. As always keep those pictures and letters coming!

-Crist Rigotti



Frank Carlisle proudly displays his RSM kit LA Heat. It uses 2 Brodak 40 engines and came out at 74 ounces. Carlisle photo.



Bob Baldus was the CD at the Polk City contest. Nice job, Bob, to you and your crew.



Mike Gretz and Russ Gifford judge OTS at the Polk City contest. Thanks guys.



Allen Brickhaus, Larry Lindburg, and myself stopped at this restaurant on the way to the Polk City contest.



A picture of the raffle prizes at Polk City. It wasn't all that cold!



Bob Brookins wins Advanced P.40.



John Cafaro shows us his mold for his latest stunter a P-51 Razorback. Cafaro photo.



John uses a Windy bellcrank in the P-51. Cafaro photo.



Steve Scott and Jeff Welliver enjoying themselves at SIG 2006.



My new flight box. A Plano 758 fishing tackle box.



A close up of how I modified the drawers to my liking. I used 5 minute epoxy to hold in the black dividers.



My good friend Ken Nash shows off his Legacy 40 at SIG 2006. I really like the way the Legacy 40 flies. I have to build another one soon..



## District 8 Report

Arkansas, Louisiana, New Mexico,  
Oklahoma, Texas



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First off I need to make a correction to the last issue of Stunt News. One of the photos that I submitted last issue was mistakenly credited to me as the photographer. While I would like to take credit for this great action photo I cannot. The photo was taken by David Russom and he deserves the credit. It was the photo of Don Hutchinson's SBD on the inside cover of the magazine. Since I did not caption the photos with the photographers name it was assumed that I had taken it. Sorry David, good job..

Well we are into full contest mode and there have been several events, both locally and across the district. The group from San Antonio put on a great contest at Randolph AUX. AFB in Seguin Texas on March 31st and April 1st. Gaylord Elling, Gregg Elling, Frank McMillan and a host of others were very gracious hosts at the CENTEX CHAMPIONSHIPS. Of course we cannot forget the support staff that makes it all work so well. Edie Oliver, Mary McMillan, Linda "Bob" Gleason and my other half Stella Hill all pitched in to do the score tallying.

Mike Gibson, from Stephenville, brought five young teenage flyers to compete like gentlemen. Mike is doing a great job working with the youth in his area and promoting C/L. Thank you Mike Gibson for your efforts..



Joe Bowman with his ARF Strega on an inverted pass. Joe was fourth in Expert on Sunday.



Da Judges Darrell Harvin and Frank McMillan.



Disk Wolsey's Madman. Dick flew this airplane in Old Time and Expert.



Gaylord Elling flying Frank McMillan's Venus with Aero Tiger 36 power. Great flying airplane.



Bill Wilson's Hunter 8 molded composite stunter. Bill was first in Old Time, first in Classic and third in Expert.



Mike Greb's RO-Jett 76 powered Impact.



Mike Finnigan with his red and white Saturn on an inverted pass. Mike finished fourth in Advanced.

The first annual Ringmaster Roundup was held in Houston at Scobee Field the last part of April. It was like a step back into the past with nothing but Ringmasters in the air. What a fun event. Dee Rice and David Gressens worked extremely hard to bring this all together and did a very fine job. Dee sent me this report on the Roundup:

“2007 Ringmaster Roundup Dee Rice”

“The first Ringmaster Roundup was held over the weekend of April 21-22 and was a huge success. Fliers from seven states came to compete and have fun. There were events that included all levels of skill and a unique Team Stunt event on Sunday made up of four fliers of different skill levels all flying a separate single event, but more on that later.

Saturday was reserved for the traditional Old Time Stunt and AMA Stunt. AMA Stunt was broken down into skill levels, except the traditional “beginner” pattern was renamed “Challenger” because in the Brotherhood of the Ring, there are no beginners, just some are a bit skill “challenged.” In AMA pattern, all Ringmasters entered received 20 appearance points for reparation of years of abuse from snooty elitists, so said the rules.

Each event placing gave all competitors weighted ticket amounts toward a really nice pile of merchandise for a raffle held at the award ceremony on Sunday. The merchandise included RSM Ringmaster kits, Brodak engines, other kits, Ringmaster Lite CAD plans, composite leading edges, fuel, and more. All pre-entries received a beautiful “crystal” mug emblazoned with the Brotherhood of the Ring seal, commemorating the first Roundup.

Old time was won by Joe Gilbert of Sapulpa (near Tulsa) Oklahoma and AMA Stunt was won by (E) Dee Rice, (A) Joe Gilbert, (I) Dale McCord, and (C) Glen Wearden. For complete results see the contest results section of this issue of Stunt News.

The highlight of the meet was the Team Stunt held on Sunday. There were four teams, each captained by an expert rated flyer. The team captains then picked their team by drafting

in rotation. There were four separate events, and each team was required to have one member to fly in one of the following events; Old Time, AMA pattern, an Unknown Pattern, and a short timed rat race. The strategy was to choose a team member to make one flight in one of the events so as to maximize the team score. Each score was weighted by a K factor so as to produce a score of about 500 points for a well performed event. Each flyer got two attempts to make one official flight. Got that??

All teams had to have a team name and were encouraged to boo other teams and cheer for their own. Somehow it all worked and everyone had a great and noisy time. Even the ladies in attendance were commenting how much fun this all was. The scoring system worked well as Dale Gleason’s team nudged out David Gresen’s team by only 16.90 points. Final scores and results were;

1. Kania’s Kangaroos 1933.95  
Dale Gleason, Gaylord Elling, Lew Woolard and Gregg Elling
2. Crash Masters 1917.05  
David Gressens, Joe Gilbert, Richard Stubblefield and Bob Brookins
3. Greb’s Gropers 1823.95  
Bill Wilson, Mike Greb, Steve Hollier and Dale McCord
4. Good Ole Timers 1694.95  
Dee Rice, Mike Finnigan, Jim Phillips, and Frank Williams

There were also surprise cash awards given for the lightest and heaviest Ringmasters (23 and 36 oz. respectively) as well as the oldest flyer and the lowest AMA number. Lew Woolard at 83 won the oldest and he drove all the way from Kansas to attend. He is truly amazing.

The highlight of the awards was the presentation of the two gorgeous huge Black Walnut plaques that included a collector’s quality Sterling Ringmaster kit protected by a clear acrylic cover. Joe Gilbert won the flying award and is now The Master of the Ring for 2007. Bill Wilson won the Pilot’s Choice award with an exquisite Ringmaster powered by a sweet running McCoy .35 Red Head.

I want to say thank you to all the sponsors that contributed cash and merchandise, the volunteers with out

whose help the Roundup would not have been possible, and especially all the Brothers that took time out of their lives to come and fly. We will see you next year and plan to have another surprise or two, just for fun.

In the meantime, stay in touch through our web site and forum; [www.brotherhoodofthering.info](http://www.brotherhoodofthering.info).”



Joe Gilbert’s red, white and blue ringmaster.



Bill Wilson’s Ringmaster at the top of the inside rounds. Bill also won Pilot’s Choice Award with this fine example.



Lou Woolard, “The Silver Fox”, still going around and around.





Stephen Hollier came over from Beaumont Texas to have some fun and compete.



Hard working John Gunn patiently awaits the careless fly.



More Ringmasters entered than any other design.



Ahhh the goodies.



The pit area for Beginner and Intermediate.

Well until next time.. Tight lines and fair winds.

-John Hill

The Texarkana contest report is a bit short but the following pictures about sum it up. Dee did write that Ringmasters were the most represented design there and that designer Matt Kania's Yak 9 won first in Expert and a Ringmaster won second. Must be something in the water around here as Ringmasters seem to multiplying exponentially.



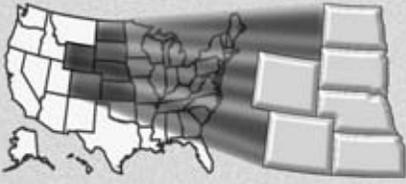
Fliers Ryan McElroy(4th), Amir Saleh(3rd), and Matt Weems(2nd) grab some chow.



John Ashford (center) grins his approval of Louis Rankin and Zuriel Armstrong's well done Ringmasters.

## District 9 Report

Colorado, Kansas, Nebraska, North Dakota,  
South Dakota, Wyoming



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I have been working too much lately and have not been getting much flying in. May 18 we did Special Needs Air Show at the Grand Junction Airport, West Star Aviation sponsored the Air Show. The local school district brought out about 200 kids with varying degrees of handicaps, from learning disabilities to physical disabilities. There were three that stood out from the crowd. The first was a little girl that had some sort of bone disease. She was in a wheelchair and had casts on both legs. At first she didn't think she could do it because she was in a wheelchair, and I told her about when I was in a wheelchair. She got a big smile on her face and said she would try. The whole time we were flying she had a huge smile. The second was a small boy also in a wheelchair, he wanted to fly left handed. We tried, but I couldn't help him left handed, and asked him if we could try it right handed. At first he did not want to, he didn't want anyone to see his hand, he had been born with only 4 fingers and they had made one of his fingers into a thumb. I showed him my hand, with my toe as a thumb, then he got a big smile on his face and said yes. He had a great time. The third, a boy was 12 or 13 and I think he had Downs Syndrome. He had a great time flying as well, he actually flew most of time himself, he was a very articulate

young man. When he was done flying he thanked me and he gave me an origami airplane he had made himself. We managed to get in 79 flights getting 78 kids in the air. My help for the day was Dave Hathorne, Richard Hathorne, Jim Ferguson, Don Dubie, Steven Deis. All the photos were taken by Dave's girlfriend Debbie.



Little girl in the wheelchair.



Little boy in the wheelchair.



Origami airplane the young man gave me.



Line of kids waiting to fly.



Dave Hathorne and Steven Deis. Dave and Don did the starting and refueling, and Steven did the recovery and launching duties.



Some of the crowd and trainer.



Don Dubie and his son Steven Deis.



Carl Shoup and his Belfrey Bound in front of a US Navy Super Hornet

I received a letter from Gary Hetrick from Fremont, NE, and he sent pictures. I received two letters this month. The first one is from the Orbiting Eagles of Omaha NE. "We had a fun fly and learn to fly at the Strategic Air Command Museum. Part of one parking lot was roped off for us to fly..



There was a light breeze which made for a good stunt day. This year we had 6 members of the club participate. He also sent pictures of his two latest airplanes, an Me 109 and a Ringmaster. The 109 is a Walter Umlands kit of the old Midwest plane powered by the old standby Fox 35. It weighs in at 38 oz. The Ringmaster is the RSM version. Power is an LA 25, its weight is 28 oz.



Some of the planes at the fun fly at the Strategic Air Command Museum.



Ed Prohaska helping Tom Egbert with his electric Super Clown getting it ready to go.



Ed Prohaska flying by Old Glory.



Wade Pearson getting in a flight.



Scott Molk making like a photographer.



Gary Hetrick's winter project RSM kit Ringmaster, only 28 oz with an LA 25.



Gary Hetrick's winter project Walter Umlands kit of the Midwest Mc 109 and it weighs 38 oz with a fox 35.



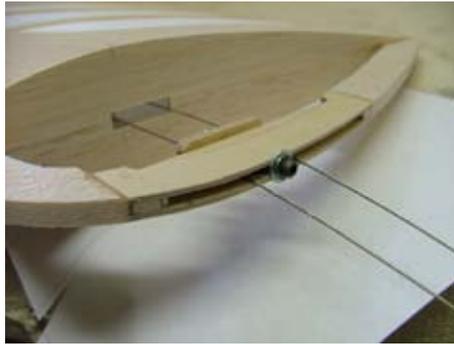
Bob Furr taking a picture of Gary Hetrick taking a picture of him.

Hello Carl,

Just wanted to send you some PICS of my winter project a Jamison Special.

Use the pictures as you like. Chris Barnard and I flew it a couple of weekends ago and it really shows to be a winner (with you flying it!) Anyway, we were only able to get in one flight on it prior to Chris getting "Lit up" as he flew his "Oriental" at the handle by the in coming thunder storm in Denver that day.

I build it using the plans "Bud Jamison's 1947" "NATs Favorite" kitted by Tom Dixon with the foam cut wing. Construction was straight forward as many planes are. I really like to build using foam cut wings. Fuel tank was also home made, typical 4 oz Uni-Flow set up with Muffler Pressure. 1st flight was 6.5 min on 3 oz of fuel. The pictures will show the progress I was using. Power is a Stock Magnum 36A (Super Tiger Needle Valve) with a 10X4 Zinger Pro prop. I was really impressed with the turning ability of this plane with elevator only. Nice!! I'm looking forward to many more flights on this one.



Leadout guide.



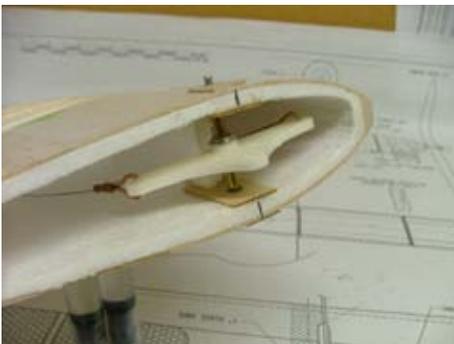
Almost ready to cover and paint.



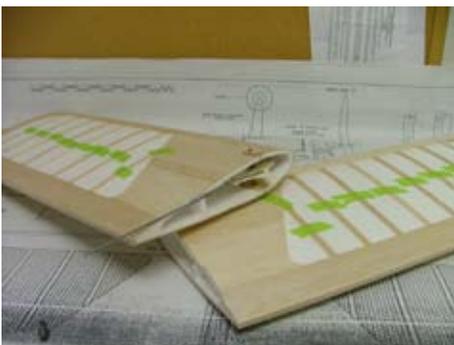
Alignment set up.



Finished leadout guide and tip.



George Wodtke bellcrank in Tom Dixon foam kit of Bud Jamison's 1947 NATs favorite.



Wing halves ready to join



Now that is a nice old timer.

or Wyoming. What is going on in your neck of the woods? Give me a call or drop me a line.

-Carl Shoup



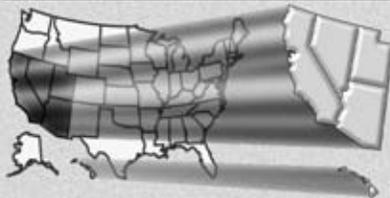
Good job, George.

I haven't heard from anyone in Kansas, North Dakota, South Dakota



## District 10 Report

Arizona, California, Hawaii, Nevada, Utah



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Well, I'm high over the great state of Utah. About 38,000 ft, and 80 NM SE of Salt Lake City with a true airspeed of 459 KTS. I'll hit SFO about midnight, and home around 0145. Not a great day for getting out of Newark NJ. But then again, anytime you can leave Newark, maybe it really is a good day. (Just kidding.) Home 4 ½ hours late. What's a thunderstorm or two, and 50-60 kt winds?

My plan for this NATs is to pretty much compete with my plane and engine set up I used for Spain last summer. I know many more people are starting to use the larger engines, but I still have not seen many myself. It'll be good to share info and setups at the NATs. This will be the first time I have the 75 at the NATs. I started development work for the PA 75 after the team trials in 2005. So it's only exposure has been in CA and Spain, and this coming NW Regionals. I just put together a backup plane with the 75 set up for Mike Pratt to fly. It'll be interesting to see what he thinks.

Part of our preparation for the contest season out in the West has been a judging clinic this last April 21st, put on by our National Champ, Brett Buck and the Woodland Aeromodelers. Brett has developed a set of hand outs that are simply outstanding. The weather was threatening all morning long,

overcast and drizzle. I felt like I was in Seattle. We had an extensive classroom discussion on what it takes to be a good judge. Size, shapes, intersections, bottoms, the usual stuff only in a great amount of detail. What to judge, not who is doing the flying, etc. Doug Barton, Jim Aron and I later put up some flights for the judge students.

At the end of the day, everyone was pretty much seeing the same maneuvers. This is a major accomplishment. Once you can do this, then judging consistency should follow. Scoring becomes reasonable and it gets easier to judge the flight instead of other factors. About the end of my flight, the wind calmed down from a gale, but the rain started, so we called it a day. It'll be a few more weeks to see the fruit of the clinic after the first contest or two of the season.

As I write this, I have gotten word from Cleon Lingwood about the Woodland flying site. Here is an E-mail from Cleon:

Good morning all! Just a note. The City of Woodland has given the Club notice to vacate the field. So, tentatively, September 2008 will be the 'last call'. Preparations will begin shortly to cleanup the field and start the removal of club property.

Hopefully, a new site is in order. I'll keep you informed as I get more information.

Regards, Cleon M. Lingwood, Jr.

Upcoming dates for CA,

1. The Great American ARF-OFF July 29, 2007 Mavis Henson Field, Woodland
2. Summer P-40 meet to be held at the LA Basin on Sunday, Aug. 12, 2007
3. 10TH Annual Ted Goyet Stunt Classic, August 18-19, with practice days on the 16-17. Dave Shirley Jr. is C/D
4. Meet 'n Meat September 22-23 Mavis Henson Field, Woodland
5. Napa Valley Vintage Stunt Regional October 7, 2007 Kennedy Park, Napa

### Some notes from Jerry Silver:

We did have a very successful Stunt Clinic/P-40/Classic meet on Sun., May 6th. Our next event will be the Summer P-40 meet to be held at

the Basin on Sunday, Aug. 12, 2007. We will once again add Classic to the calendar and will have both Sportsman & Competitor Classes for both events. Contest Director is Antone Gephart. He can be reached at 626-303-5266 or e-mail: [tckephart@yahoo.com](mailto:tckephart@yahoo.com). We may do away with the "40" size engine restriction in profile but not allow tuned pipes. Will advise later on this.

Our next event is the Hi Johnson Memorial to be held at the Basin on Oct. 6th & 7th, 2007. Full schedule of events here consisting of: O.T., Classic, all PAMPA Classes and maybe 1/2-A Leprechaun. Also P-40 which may be expanded into just a Profile class, i.e. no engine size restrictions except no Tuned Pipes.

I'm still trying to have a GSSC in the Clovis area this year. So far no luck but have not yet given up. If someone wants to take responsibility for being the C.D. and hold it elsewhere this year on Oct. 20th & 21st it's perfectly o.k. with me. The Baseball Coach at Buchanan sees no reason that we should not be able to return to that site next year. That's the good news. I'll let you know when I have something one way or the other.

Best regards, Jerry



Brett Buck introducing the 2007 Stunt Clinic



At the White Board. I don't know if it will show up, but there is something about Bullwinkle on the board.



Cleon Lingwood, Jr. & David Huesman



Kevin Kemp, 3rd Place Beginner



Paul Isenhower, CD



Bob English Judges the lone Expert: Jim Aron(COWARDS!)



Ruth Rediger, Tabulator



Larry Wong, Imitation Plus, 3rd Place Intermediate



Jim Aron whispers sweet nothings prior to winning flight



Heman Lee and Jerry Arana judging Intermediate

Sincerely,

-Dave Fitzgerald



## District 11 Report

Alaska, Idaho, Montana, Oregon,  
Washington



**Bruce Hunt**

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

It's official. The 2007 contest season has begun with the Jim Walker contest hosted by the Northwest Fireballs of Portland, Oregon. In typical April fashion, the first day was damp for the P-40 and Classic competition and Sunday was sunny with light winds coming from all directions for the PAMPA events. Good exercise for the judges. With the combat pilots present for the 80 mph event on Sunday there were also additional entries in Intermediate. It seems that once you retire from combat, stunt looks like a good option.

The real news of the weekend was the unveiling of winter's new models. All the buzz was about Paul Walker's new electric powered Impact. No compromises here. We are talking about a full size stunt ship with a one flip of the switch start. During Paul's first practice flight, I made an attempt to video the flight only to be frustrated by the total lack of any sound. With other planes in the air and the constant background noise coming from I-5 200 yards away, Paul was into his reverse wingover and out of my viewfinder with no way for me to locate the model. There is no Doppler effect with electric engines. Paul reports that the motor is a Plettenberg Orbit 30-12, with a Schultzie speed controller with a Kim Dohrty processor powered by a 5S2P4200 Pro Lite Thunder Power Li-Po battery. The propeller is a Brian Eather

13.25X4 corrected to 6" pitch. The plane is an "oversize" Impact at 750 square inches. Total flying weight is 67 Ounces, which includes the 17 ounce battery. With its short nose and magnetic latching cowl you can tell something special is going to happen. With a casual wave to the judges, a flip of a switch and stroll to the middle of the circle nothing much happens until the handle is raised, the controls are checked and the engine suddenly spins into action. No overruns...constant speed everywhere...you could fly one of these in your neighborhood school yard without anyone knowing you were there.

Other new models that made their first Northwest contest include Don McClave's Skylark and Pat Johnston's Shark 35 and Randy Powell's Novi. Don's Skylark is a larger model than Don usually flies and is made possible by his conversion from Fox .35 to LA.40 power. Pat Johnston's Shark 35 comes with a unique shark paint job and his usual excellent craftsmanship. You can see why Pat went with the Shark 35 instead of the Shark 45 when he holds it up to start it inverted. At least the 35 is shorter than he is. Randy's Novi is, as usual, a piece of art work and this one flies well. All that said and Scott Riese flying his Cobra better than ever walked away with the Classic trophy with consistently excellent flights.

On the P-40 front, the Northwest has some new rules which allow the use of any engine allowed under AMA rules in a profile. It appears that the availability of ARF's that fly nicely with the LA.46 had an influence on the vote for the rule change. I guess we will have to start calling the event P-90 from now on. Mike Haverly took first in the sportsman profile class with Greg Hart and Rod Claus placing 2nd and 3rd respectively. Pat Johnston took first in the expert profile class followed by Dan Rutherford flying his 20FP powered loaner Flitestreak (Figured he talked everyone else into flying it in competition without practice flights so he might as well try it too.)

As I mentioned earlier, Sunday was a nice spring day. Along with the sun and light wind there was some excellent flying in the PAMPA events. There was the largest turnout in Intermediate in many years. Five competed with Doug Wood from Idaho Falls, Idaho taking first, with a model he claims was put together from the best parts of four other models. Rod

Claus came in second in Intermediate while Jeff Rein took third going back and forth from the combat circle.

In beginner, Buzz Wilson, of northwest combat fame took first from Richard Entwistle who has recently rejoined the hobby showing some good potential for the future.

As has been the case in the Northwest for the last couple years, Expert has become a hotly contested event with good participation. There were 9 expert pilots and once Paul Walker quietly blew everyone away any of the others could have walked away with 2nd and 3rd. This week, however, Scott Riese was just flying too well for Don McClave to catch.

As usual you can get all the details at the NW website: [flyinglines.org](http://flyinglines.org)

-Bruce Hunt



John Thompson prepares his model at the McMinnville Spring Fun Fly. Notice the short sleeves in March and shadows too!



Jack Pitcher stands next to his model in the pits at McMinnville.



Jack Pitcher launches for Gerald Schamp at McMinnville.



Hube starts latest creation Superstar, shows a European influence.



Randy Powell's latest classic entry, Novi, performed well in its first contest.



Randy Powell braves the rain during the classic competition at Portland's Jim Walker Memorial contest.



How about that Shark! Another well executed model from Pat Johnston.



Scott Riese prepares to start his Cobra for another well executed pattern. Mike Haverly holds on.



Pat demonstrates that he is taller than his model. Good thing he didn't build a Shark 45 though.



Sunday morning in the pit was a lot nicer than it had been Saturday in the rain. There was an excellent turnout for the PAMPA events at the Jim Walker memorial contest.



The star of the show at the Portland contest was Paul Walker's latest electric powered Impact XL.



Paul caught looking for the right wires to connect.



"Let's see..... the red wire connects to the little black thing....."





Don McClave gives Paul Walker a launch. It was just like magic except it was all mirrors and not a bit of smoke.



Jack Pitcher talks shop with Pat Johnston in Portland.



Tom Kopriva holds his newly finished Cardinal with its finish all done in dyed Japanese tissue.



Mike Haverly's JD Falcon. The orange and blue color look great in sunlight.



Mike Haverly launches for Pat Johnston in the expert profile event. Yes, I can see it's a P-40 and no I won't make a pun of the event it's entered in.



Pete Peterson pilots his Sultan through the pattern to take 4th in Portland.



Doug Wood signals for his Intermediate winning flight. Doug reports that "Gazooks" is a combination of the best remaining parts of 4 different models.



Richard Entwistle ready to start his official in Beginner. He and his assistant, Art Zehner, are some of the newest competitors in the Northwest.



Don McClave's Skylark on beautiful day in the sun at Portland's Jim Walker Memorial flying site.

## CONTEST CALENDAR



**Howard Rush**  
14321 SE 63rd St.  
Bellevue, WA 98006  
(425) 746-5997  
hmrush@comcast.net



**Jim Snelson**  
7200 Montgomery Blvd NE #287  
Albuquerque, NM 87109  
(505) 296-2884  
janjhobbies@msn.com



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Or write PAMPA at  
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Foster City, CA 94404  
for your free issue of  
*Stunt News*,  
the premier control line  
aerobatics magazine.**

## Stunt News Contest Calendar

Listings are what we had at the Stunt News deadline. For up-to-date listings and additional information, see the PAMPA Web site: <http://www.control-line.org/DesktopDefault.aspx?tabid=24> and the AMA Web site: <http://modelaircraft.org/comp/ContestCalendar/Webcalendar/Flying%20Events/calendar.htm>. Be sure to confirm with the CD before going to a contest. 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 Howard Rush.

Behold that most Canadian contests will be conducted with the new MAAC rules.

Events marked with an asterisk use nonstandard rules. Contact CD for details.

2007 Contests:

### June 23-24

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

Saturday: Stunt, Racing and Balloon Bust Triathlon\*

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

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

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

### June 23-24

25th Annual Sig C/L Championships, Sig Field, Montezuma, IA

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

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

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

### June 23-24

Indiana-Kentucky Championships, Clark County Airport, Sellersburg, IN, exit 7 from I-65

Saturday: Old Time, Classic\*, Profile\*

Sunday: ARF\*, Precision Aerobatics\*

All stunt events have Beginner, Intermediate, Advanced, and Expert classes

CD: Byron Barker, Jr., 407 Mt Tabor Rd, New Albany, IN 47150, (812) 944-8511, linecontr@aol.com

### June 23-24

Jim Parsons Memorial Stuntathon, Pierce County Airport (Thun Field), Puyallup, WA, <http://www.nwskyraiders.com/thunfield.html>

Saturday: Profile\*(Sportsman, Expert), Old Time, Classic

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

CD: Howard Rush, 14321 SE 63rd Street, Bellevue, WA 98006-4802, (425) 746-5997, hmrush@comcast.net

<http://www.nwskyraiders.com>



### June 24

Garden State Circle Burners' June stunt meet, George L. Gaydos Field, Two Bridges Rd., Lincoln Park, NJ

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

CD: Rich Peabody, 393 Fern St., Township of Washington, NJ 07676-5013, (201) 669-2605, rpeabody@verizon.net

<http://www.gsclub.us>

### July 1

Tree Town Modelaires Control Line Club Firecracker Stunt, Aurora Airport Sugar Grove, IL

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

CD: Rich Tupper, (630)985-8518, r.tupper@sbcglobal.net

Contact: Fred Krueger, (630)897-2941, fkpampa9@comcast.net

On contest day call (630) 849-7298 (cell phone).

<http://clflyer.tripod.com/ttown/ttown.htm>

### July 8-14

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

Sunday: Precision Aerobatics\* (Advanced, Open) appearance judging. Advanced and Open entry deadline is noon Sunday.

Monday: Precision Aerobatics (Beginner\*, Intermediate) (unofficial NATs events), Old Time, Classic registration, noon

Tuesday: Old Time, Classic (unofficial NATs events)

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

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

Friday: Open Precision Aerobatics\* Top 20, Advanced Precision Aerobatics\* finals.

Jr. and Sr. entry deadline is 4:30 Friday.

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

Beginner ED: Allen Brickhaus, abkb801@shawneelink.net

Intermediate ED: Bob Brookins, Clstunflyer@bobbrookins.com

Old Time, Classic ED: Mike Keville, vsc-guy@cox.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%20Forms/2006%20CLPA%20Entry%20Form.pdf>

See PAMPA Web site for details: <http://www.control-line.org>

### July 28-29

Skylarks of Sharon Fly-In and Profile Stunt Contest, club field, Transfer, PA

Profile\* (Beginner, Intermediate, Advanced, Expert)

Two flights each day; score is best two of four.

CD: Bob Crusan, 1169 Chestnut St, Clarion, PA 16214, (814) 223-9695

Assistant CD: Phil Spillman, 350 Butterfly Ln., Hermitage PA 16148, (724) 983-1677, p.g.spillman@att.net

### July 28-29

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

Take Steveston Hwy turnoff from Hwy 99, turn left. Left at No. 5 Road, Left onto Rice Mill, <http://www.nwskyraiders.com/ricemillrd.html>

Saturday: Old Time, Classic, Pukey Profile\*

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

CD: Chris Cox, (604) 916-3571, ccox1@telus.net

### July 28-29

51st 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

### July 29

The Great American ARF-OFF, Mavis Henson Field, County Road 102, 2.5 mi south of I-5 exit 536, Woodland, CA

Precision Aerobatics, Commercial Control Line ARFs only\*

CD: Jim Aron (510) 654-2200 work, (510) 527-5377 home, UncleJimby@aol.com

### August 4-5

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 11-12

Wichihawks' Air Capital Control Line Championships, Planeview Park, Wichita, KS

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

CD: Mike Tallman, 3014 Exchange St, Wichita, KS 67217-3122, (316) 524-4004, mike-tallman@webtv.net

### August 11-12

Fellowship of Christian Modelers Championships,

AMA, E. Memorial Drive, Muncie, IN  
Saturday: Classic, Old Time, Profile Stunt\*  
Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
CD: Allen Goff, 2100 N Carrollton Dr., Muncie, IN 47304, (765) 759-7473, jangof@aol.com, allengoff@fcmodelers.com  
www.fcmodelers.com

#### August 12

Middlesex Modelers' Precision Aerobatics Challenge, Middlesex Modelers' Field, Mountain View Park, Middlesex, NJ  
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 12

Valley Circle Burners' Summer P-40 Stunt Contest, Apollo 11 Field, Sepulveda Basin, Van Nuys, CA Turn south off Victory Blvd across the tracks and past the first access road on the right. Continue on to a road that goes off at a Y on the right.  
P-40 Sportsman\* (Beginner and Intermediate combined), P-40 Competitor\* (Advanced and Expert combined)  
CD: Antone Kephart, 130 Violet, Monrovia, CA 91016, (626) 303-5266, tkephart@yahoo.com

#### August 18-19

Paducah Aero Modelers' Western Kentucky/Southern Illinois Stunt Championships, McCracken County Model Air Park, Paducah, KY: Take exit 3 off I-24 on the Kentucky side of the Ohio River. Turn east on Old Cairo Road and find Coleman Road off to the right (south) at about one mile. Travel south on Coleman Road three quarters of a mile and turn left (east) on County Park Road. Go through the open, right, red gate and drive to the top of the hill.  
Saturday: Beginner Precision Aerobatics, Basic Flight\*, Profile Stunt\*, Classic, Old Time  
Sunday: Precision Aerobatics\* (Intermediate, Advanced, Expert)  
CD: Allen W. Brickhaus, PO Box 206, Golconda, IL 62938, (618) 683-7611 (home), (618) 841-0089 (cell), abkb801@shawneelink.com  
Contact: Charles Reeves, (270) 554-9920

#### August 18-19

Michigan Signal Seekers' Michigan C/L Championships, SE corner of Michigan Ave. and Merriman, Westland, MI Access is from Henry Ruff, 1 block S of Michigan Ave.  
Saturday: Old Time, Classic, Profile\*  
Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
CD: Curt Nixon, 8836 Utah, Livonia, MI, (734) 261-8134, captcurt@flash.net

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

#### August 18-19

New Mexico Coalition of Control Line Addicts' High Desert Control Line Fiesta, George Maloof Airpark, Albuquerque, NM, N 35° 8.970', W106° 43.906' See Web site below or call CD for directions.  
Saturday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
Sunday: Old Time  
CD: Richard Perry, 427 Line Oak Ln NE, Albuquerque, NM 87122, (505) 856-7008, tailhooker@comcast.net  
<http://www.arconline.com/flying-field.htm>

#### August 25-26

Skylarks of Sharon Fifth Annual Western Pennsylvania Stunt Championships, club field, Transfer, PA  
Saturday: Old Time, ARF\*, Classic  
All Saturday events have Beginner, Intermediate, Advanced, and Expert classes.  
Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
CD: Phil Spillman, 350 Butterfly Ln., Hermitage PA 16148, (724) 983-1677, p.g.spillman@att.net  
Assistant CD: Bob Crusan, 1169 Chestnut St, Clarion, PA 16214, (814) 223-9695

#### August 25-26

The New England Stunt Team Presents Stunt in the Berkshires, Boyd Co., 501 Pleasant St., Lee, MA  
Saturday: Old Time, Classic\*  
Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
CD: Bill Hummel, 260 Lape Rd., Nassau, NY 12123-3707, (518) 766-9432, camphummel@hotmail.com

#### August 25-26 (tentative)

The Evergreen Aeromodelers' Country Classic, Evergreen Aviation Museum, 500 NE Captain Michael King Smith Way, McMinnville, OR  
Saturday: Classic, P-40\*  
Sunday: Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
Contact: Jerry Eichten, (503) 554-0034, JEichten@aol.com  
<http://www.egam.org/>

#### August 26

Rockford Stunt Classic, Kieselburg Forest Preserve, 5801 Swanson Rd, Roscoe, IL  
Precision Aerobatics (Beginner, Intermediate, Advanced, Expert)  
CD: Arthur Johnson, 1818 Oslo Drive, Rockford, IL 61108-6612, (815) 398-3490, art\_johnson36@insightbb.com

#### August 26



Canadian Nationals, Chatham Kent Airport,  
Chatham, Ontario

F2B

Information: Model Aeronautics Association of  
Canada, 5100 South Service Road Unit 9, Burlington,  
Ontario L7L 6A5,

<http://NATs.maac.ca/index.html>

### **September 1-2**

New England Stunt Team Mitch Lilly Memorial  
Mass Cup Championship, Wrentham State School,  
Emerald St., Wrentham, MA

Saturday: Old Time, Classic

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

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

### **September 1-2**

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

Saturday: Old Time, Classic

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

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

<http://www.dmaa-1902.org>

### **September 1-2**

US Control Line Precision Aerobatics Team Selection  
Finals, AMA, E. Memorial Drive, Muncie, IN

F2B

Get entry blank from AMA Events Department,  
5151 E Memorial Dr., Muncie, IN 47302, (765) 287-1256,  
ext. 231, lisaj@modelaircraft.org

### **September 2**

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

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

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

[http://clflyer.tripod.com/ttown/treetowncontest.  
htm](http://clflyer.tripod.com/ttown/treetowncontest.htm)

### **September 8**

Michigan Control Line State Championship, Rouge  
Park, Detroit, MI

Old Time, Classic

CD: Ron Colombo, 14907 Garden St, Livonia, MI  
48154, (734) 522-5399

### **September 8**

HAMS Stunt Feed 'n' Fly, Jerry Tarnofski's house,  
1038 Powells Valley Rd, Halifax, PA

Precision Aerobatics (Beginner, Intermediate,  
Advanced, Expert)

CD: Philip Cartier, 34 Sweet Arrow Dr.,  
Hummelstown, PA 17038, (217) 566-3810, philcartier@  
earthlink.net

### **September 8-9**

Canadian F2B Stunt Team Trials and Autumn Stunt  
Contest, Niagara Falls, Ontario

Saturday: Profile Stunt\*, F2B

Sunday: rain date

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

### **September 8-9**

Peoria Area Wyreflyers' Heart of Illinois Stunt  
Championships, Detweiler Park, Peoria, IL

Saturday: P-40\*

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

CD: Russ Gifford; 1302 2nd Street; Camanche, IA  
52730, (563) 259-1649, gst92@mchsi.com

### **September 9**

ERMAC XXXII Annual Fall CL Aerobatic Contest,  
Mountain View Park, Van Ness Dr. north of state  
highway 28, 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 14-16**

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

Friday: practice

Saturday: Classic\*, Old Time, Profile\*

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

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

### **September 15-16**

Seguin Championships, Randolph Air Force Base  
Auxiliary Field, Seguin, TX

Saturday: Old Time, P-40\*

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

CD: John Hess, 131 Fantasia, San Antonio, TX 78216,  
(210) 342-8029

### **September 15-16**

Columbia Basin Fall Classic, TRAC Stadium, Pasco,  
WA, 46.10989° N, 119.102031° W, [http://sjsharkie.  
dagnabit.org/baseball/ballparkguide/northwest/  
tricity.html](http://sjsharkie.dagnabit.org/baseball/ballparkguide/northwest/tricity.html)

Saturday: Classic, Profile\*

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

CD: Leo Mehl, 2814 NE 77th Pl., Portland, OR 97213,  
(503) 255-6471, leomehl.1@netzero.net

### **September 16**

Bergen County Flyers' New Jersey Aviation Hall of Fame Benefit, Palisades Park swimming pool parking lot, 275 Broad Ave, Palisades Park, NJ, [http://www.gscb.us/map\\_to\\_pal\\_park.htm](http://www.gscb.us/map_to_pal_park.htm)

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

CD: Rich Peabody, 393 Fern St., Twp of Washington, NJ 07676, (201) 664-1929, rpeabody@verizon.net  
[www.richpeabody.com](http://www.richpeabody.com)

### **September 16**

Sandwich, IL

½A Stunt\* (Beginner, Intermediate, Advanced, Expert)

CD: Jim Renkar, 6201 S Nashville Ave, Chicago, Illinois, United States, 60638-4111, (708) 594-2623, ukiepilot@comcast.net

### **September 22-23**

Lafayette Esquadrille Broken Arrow 20 Stunt and Scale, Buder Park, exit 272 N from I-44, Valley Park, MO

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

CD: Robert Arata, 561 Goldwood Dr, Ballwin MO 63021-6315, (636) 391-0272

### **September 22-23**

Meet 'n Meat IX, 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 22-23**

Cleveland Area Stunt Champs, Cuyahoga County Fairgrounds, 164 Eastland Road, Berea, Ohio (but use the Bagley Road entrance 1/4 mile west of Old Oak Boulevard). Take the Bagley Road Exit 235 from Interstate 71.

Saturday: Old Time, Classic, Profile\*, ARF/ARC\*

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

CD: David Heinzman, (440) 734-6491, DHeinz6746@cs.com

Contact: Joe Rusyniak (440) 951-9967

<http://www.control-line.net>

### **September 29-30**

Tulsa Glue Dobbers' Stunt Contest, Neafus Field, 13376 South Peoria Ave, Glenpool, OK

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

Sunday: Precision Aerobatics (Beginner Jr., Beginner

Sr.-Open, Intermediate\*, Advanced\*, Expert\*)

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

### **September 29-30**

Capital City Championships, Cooper Stadium, I-70 exit 98, Columbus, OH

Saturday: Old Time, Classic, Profile\*, ARF\*

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

CD: Keith Bryant, 4706 Sheets Rd NW, Lancaster, OH 43130 (740) 756-4468, kbryantool@columbus.rr.com

### **September 30**

New York Stunt Team Joe Ortiz Memorial Stunt Bash

Precision Aerobatics (Beginner, Intermediate, Advanced, Expert), ARF\*

CD: Bob Lampione, 15319 41st Ave., Fl. 2, Flushing, NY 11354-4948, (718) 463-1755, rlampione@nyc.rr.com

### **October 6-7**

West Ohio CL Stunt Contest, club field behind Wegerzyn Garden Center, 1301 E. Siebenthaler Ave., Dayton, OH

Saturday: Classic, Profile\*, ARF\*

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

CD: John Jordan, 2332 S Dixie Dr., Kettering, OH 45409 (937) 294-7971, balsadust1956@woh.rr.com

### **October 6-7**

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

Saturday: Stunt Clinic

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

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

Assistant CD: Tom Farmer, 3621 S Elm St., Grand Prairie, TX 75052-6333, (972) 262-4772

### **October 6-7**

Hi Johnson Memorial, Apollo 11 Field, Sepulveda Basin, Van Nuys, CA Turn south off Victory Blvd across the tracks and past the first access road on the right. Continue on to a road that goes off at a Y on the right.

Saturday: Old Time, Classic, P-40\*

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

CD: Bill Barber, 2509 Whitechapel Pl., Thousand Oaks, CA 91362 (805) 241-0453 barcam@verizon.net

### **October 6-7**

WOLF Fall Follies, Bill Riegel Field, Salem Airport, Salem, OR

Saturday: Profile\* (Sportsman, Expert), Classic (Sportsman, Expert)



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

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

#### **October 7**

Napa Valley Vintage Stunt Regional 3, Kennedy Park, Napa, CA

Old Time, Classic

CD: Jim Aron (510) 654-2200 work, (510) 527-5377 home, UncleJimby@aol.com

#### **October 7**

Garden State Circle Burners' Fall Air Show Part I, Palisades Park swimming pool parking lot, 275 Broad Ave, Palisades Park, NJ, [http://www.gscb.us/map\\_to\\_pal\\_park.htm](http://www.gscb.us/map_to_pal_park.htm)

Old Time\*, OTS II\* (flapped models only), 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 14**

Garden State Circle Burners' Fall Air Show Part II, Palisades Park swimming pool parking lot, 275 Broad Ave, Palisades Park, NJ, [http://www.gscb.us/map\\_to\\_pal\\_park.htm](http://www.gscb.us/map_to_pal_park.htm)

Precision Aerobatics\* (Intermediate, Advanced, Expert)

CD: Mike Ostella, (973) 364-1105, or (201) 704-7081 day of event, mike.ostella@verizon.net

#### **October 19-21**

Carolina Criterium, Waymer flying field, Huntersville, NC. Take exit 23 E from I-77 to Hwy 115, go S on Hwy 115 to Holbrooks Rd. Field is 1.3 mi. E of 115 on Holbrooks Rd.

Friday: Practice

Saturday: Basic Flight\*, Profile\*, Old Time, Classic\*

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

CD: William Francis, contact Watt Moore, 981 Meadowlark Dr., Rock Hill, SC, (803) 366-9430, medplans@cetlink.net

#### **October 20-21**

29th Annual Golden State Stunt Championships

Saturday: Old Time, Classic

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

Contact: Jerry Silver, 2011 N

Beverly Dr., Beverly Hills, CA 90210, (310) 275-6359, jsilverflyer@adelphia.net

#### **October 20-21**

Lee Lorio Memorial, Independence Park, Baton Rouge, LA

Saturday: Profile\*

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

CD: Gil Causey, 3229 Meadowood Dr., Slaughter, LA 70777, (225) 658-6139, gil6964@cox.net

#### **October 21**

Lafayette Esquadrielle Old Time and racing contest, Buder Park, exit 272 N from I-44, Valley Park, MO

Old Time

CD: Gary Frost, 623 Derek Dr, Wentzville, MO 63385, (314) 800-4400, qualadv@centurytel.net

#### **November 3-4**

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

Saturday: Old Time, Classic, Profile\*

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

Contact: Lewis Popwell, (205) 755-6513; Jim Oliver, (334) 365-9648, nsrca\_1133@yahoo.com

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

#### **November 18**

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

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# CONTEST REPORTS



**Howard Rush**  
 14321 SE 63rd St.  
 Bellevue, WA 98006  
 (425) 746-5997  
 hmrush@comcast.net

## Old Time

Judges: Dan Miles, Jay Williams

1	John Paris (E)	310.5
2	Rick Sawicki (E)	266
3	Dave Keats	259.5
4	Jim Morway	259

Critiquers: Curt Nixon, Dave Heinzman

## Memorable Moments:

- Number of good saves in the wind
- Rick Sawicki taking an attempt because he could not start his electric motor
- Event organizer (me) did not know what day it was
- Off roading experience by all to get to the circle-- event guy needs better maps and signs
- The dent put into the food at the Hong Kong Buffet at the end of the day.

Thanks to everyone that made it out. I hope that it was a good way to ease into the contest season.

John Paris

## Broome Spring Fling Stunt Clinic/ Challenge May 19, 2007, Flint, MI Results from John Paris

(E) signifies electric airplane

### Expert

Judges: Bob McDonald, Rick Sawicki

1	Dave Heinzman	496.5
2	Frank Carlisle	484
3	Curt Nixon	435

### Advanced

Judges: Bob McDonald, Rick Sawicki

1	Tom Polk	499.5
2	Bob Branch (E)	438
3	Jim Morway	421

### Intermediate

Judges: Dan Miles, Jay Williams

1	Dick Hodge	55
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### Classic

Judges: Bob McDonald, Frank Carlisle

1	Dave Heinzman	477
2	Rick Sawicki (E)	433
3	Bob Branch (E)	414
4	Jim Morway	413
5	Dave Keats	388.5







Jim Walker Memorial Spring Tune-Up  
 April 20-22, Portland, OR  
 Results from flyinglines.org  
<http://flyinglines.org/jw.07.html>

Expert

Judges: Bruce Hunt, Dave Royer

1	Paul Walker	589.5
2	Scott Riese	556.5
3	Don McClave	555
4	Pete Peterson	554.5
5	Pat Johnson	548.5
6	Randy Powell	546.5
7	Jack Pitcher	541
8	John Leidle	532
9	Jerry Eichten	467

Advanced

Judges: Bruce Hunt, Dave Royer

1	Mike Foley	498.5
2	John Thompson	492.5
3	Greg Hart	490
4	Mike Haverly	488.5

Intermediate

Judges: Steve Helmick, Greg Hart

1	Doug Wood	436.5
2	Rod Claus	421
3	Jeffrey Rein	407.5
4	Art Zehner	370.5
5	Mark Scarborough	290

Beginner

Judges: Steve Helmick, Greg Hart

1	Buzz Wilson	213.5
2	Richard Entwistle	204
3	Joe Just	156

Classic

Judges: Leo Mehl, Steve Helmick

1	Scott Riese	546.5
2	Pat Johnston	545.5
3	Randy Powell	512
4	Dan Rutherford	499
5	Greg Hart	434
6	John Thompson	395.5
7	Jeffrey Rein	394
8	Don McClave	61.5

Profile Expert

Judges: Leo Mehl, Steve Helmick

1	Pat Johnston	497
2	Dan Rutherford	465

Profile Sportsman

Judges: Leo Mehl, Steve Helmick

1	Mike Haverly	482.5
2	Greg Hart	476
3	Rod Claus	454.5
4	Art Zehner	380.5
5	Rich Salter	367
6	Mark Scarborough	343
CD:	Leo Mehl	



King Orange International  
 March 30-April 1, 2007, Stark, FL  
 Results from Dale Barry,  
[http://www.clstunt.com/htdocs/dc/board.php?az=showtopic&forum=103&topic\\_id=267967&mesg\\_id=267967&listing\\_type=search](http://www.clstunt.com/htdocs/dc/board.php?az=showtopic&forum=103&topic_id=267967&mesg_id=267967&listing_type=search)

King Orange Trophy Flyoff

- 1 Derek Barry
- 2 Bill Rich
- 3 Josias Delgado



Expert

- 1 Bill Rich
- 2 Derek Barry
- 3 Josias Delgado



Advanced

- 1 Louis Rankin
- 2 William Davis
- 3 Eric Viglione

Intermediate

- 1 Tom Morris
- 2 Robert Willis
- 3 Troy Pinner



Beginner

- 1 Doug Morris
- 2 Phil Coopy

Basic Stunt

- 1 Frank Wyatt
- 2 Dee Tisor

Classic

- 1 Gene Martine
- 2 Bob Dixon
- 3 Bud Weider



Old Time

- 1 Dale Barry
- 2 Dennis Toth
- 3 Watt Moore

Profile

- 1 Derek Barry
- 2 Don Ogren
- 3 Louis Rankin

CD: William Hodges



Brotherhood of the Ring First Annual Ringmaster Roundup  
 April 21-23, 2007, Houston, TX  
 Results from Richard Grogan  
<http://stunthanger.com/smf/index.php?topic=4975.0>

Expert

- 1 Dee Rice
- 2 David Gresens
- 3 Bill Wilson

Advanced

- 1 Joe Gilbert
- 2 Mike Greb
- 3 Jim Phillips

Intermediate

- 1 Dale McCord
- 2 Gregg Elling

Challenger

- 1 Glen Wearden
- 2 David Strawn

Team Stunt

- 1 Kania's Kangaroos (Dale Gleason, Gaylord Elling, Lew Woolard, Gregg Elling)
- 2 Crash Masters (David Gresens, Joe Gilbert, Richard Stubblefield, Bob Brookins)
- 3 Greb's Gropers (sic) (Bill Wilson, Mike Greb, Stephen Hollier, Dale McCord)
- 4 The Good Ole Timers (Dee Rice, Mike Finnegan, Jim Phillips, Frank Williams)

Old Time

- 1 Joe Gilbert
- 2 Dee Rice
- 3 Bill Wilson

Oldest competitor	Lew Woolard	83
Lowest AMA number	Mike Greb	1326
Lightest Ringmaster	Joe Gilbert	23 oz.
Heaviest Ringmaster	David Strawn	36 oz.

Judges: Frank Williams, Jose Vargas, Darrell Harvin, Richard Oliver  
 Desk Volunteers: Edie Oliver, Linda Gleason, Robin Gresens, Christi Holliers  
 CD: David Gresens

Garden State Circle Burners' Spring Air Show Profile Meet  
 May 13, 2007, Lincoln Park, NJ  
 Results from Rich Peabody

Expert

- Judges: Reuben MacBride, Rich Peabody
- 1 Bob Lampione Tudor ARF ST .51 490
  - 2 Brian Manaut Cardinal (kit) 480

3 Mike Cooper Tudor ARF ST .51 479

Advanced

- Judges: Brian Manaut, Mike Cooper
- 1 Bob Krug Brodak P-40 ARF OS .46 LA 491
  - 2 Reuben MacBride Banshee OS .40 FP 490
  - 3 Rich Peabody Pathfinder (kit) Magnum .40 489

Intermediate

- Judges: Rich Peabody, Mike Cooper
- 1 Ron Testa Tudor ARF ST .51 480

CD: Roy Ward

The All Profile Meet was held in a gale...or so it seemed. We had about 25 show up, but only seven flew.

Spring Opener

May 13, 2007, Niagara Falls, Ontario  
 Results from <http://www.balsabeavers.ca>

F2B

- Judges: Dave Kelly, Chris Brownhill
- 1 Konstantin Bajaikine KB1111 KB .61 138.1
  - 2 Geoff Higgs Coy Lady Higgs OS LA .46 129.2
  - 3 Michael McMahon Original Profile ST .51 112.4
  - 4 Stu Henderson Funkee Twist OS LA .40 111.2
  - 5 Janek Zalewski ARF Score OS LA .46 104.5

Profile

- Judges: Geoff Higgs, Konstantin Bajaikine
- 1 Dave Kelly Profile Oriental OS LA .46 503
  - 2 Janek Zalewski Profile Avia OS LA .25 456
  - 3 Chris Brownhill ARF Profile Cardinal OS FP .40 448.5
  - 4 Michael McMahon Original Profile ST .51 429.5

Tabulation: Kim Doherty

Texarkana Spring Classic  
 May 5-6, 2007, Texarkana, TX  
 Results from Norm Faith, CD

Expert

- Judges: John Ashford, Mike Scott
- 1 Bill Wilson Panther 536
  - 2 Steve Moon Saturn 533
  - 3 Dale Gleason 480.5
  - 4 Tom Farmer 475.5
  - 5 Joe Bowman 469.5

Advanced

- Judges: John Ashford, Mike Scott
- 1 Mike Greb Impact 513.5
  - 2 Louis Rankin 494.5
  - 3 Zuriel Armstrong 455.5
  - 4 Dave Ek 427
  - 5 Stan Haugarth 411



6	Andrew Stokey	396
7	Don Hutchinson	256.5

Intermediate

Judges: Gil Causey, Terry Tucker

1	Mike Donovan	520
2	Stephen Jeansonne	509.5
3	Dennis Keeton	482.5
4	Bryan Norton	388
5	Ty Marcucci	272.5

Beginner

Judges: Gil Causey, Terry Tucker

1	Patrick Gibson	ME109	161
2	Matt Weems	Twister	76
3	Ryan McElroy		64

P-40 Expert

Judges: John Ashford, Mike Scott

1	Bill Wilson		517
2	Dee Rice	Ringmaster	510
3	Tom Farmer	Forerunner	483

P-40 Advanced

Judges: John Ashford, Mike Scott

1	Joe Gilbert	Profile Nobler	487.5
2	Mike Greb	Cardinal	482
3	Don Hutchinson	SBD	478.5
4	Louis Rankin		475
5	Dave Ek		423.5
6	Stan Haugarth		329.5

P-40 Intermediate

Judges: Gil Causey, Terry Tucker

1	Mike Donovan	Modified Twister	516
2	Stephen Jeansonne	Chipmunk	489
3	Bryan Norton	Nortbert	405.5
4	John Ashford		399
5	Ty Marcucci		364
6	Dennis Keeton		344.5

P-40 Beginner

Judges: Gil Causey, Terry Tucker

1	Patrick Gibson	ME109	125
2	Matt Weems	Twister	72.5
3	Amir Saleh	Banshee	68
4	Ryan McElroy		63

Pit Boss: Linda Gleason

Runner: Tamara Jeansonne

Tabulators: Rachel Wilson, Nan Beavers

Equipment: Louis Rankin, Dave Ek

Food: Norm's family

It started out based on a conversation I had with a fellow flyer, Joe Bowman. He and I had been kicking around the idea of having a contest at the field we fly at for some time now. While attending my first meet of the year (February) in Dallas, the subject of the annual Texarkana, TX contest came up and most

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PAW 35 Diesel Stunt

agreed that it was not going to happen. The gentleman who annually put it on was unable to do so. I knew it was a short notice to my "better half," and I had never run a control line stunt meet; being a long time "CD," and wanting to see a traditional meet continue, "I volunteered." The rest is now history. The weather on Saturday was not real promising, but was acceptable. After a short discussion on a few of the rules such as, "flying the terrain" (the expert and advanced circle has a high spot), and when the pull testing was going to be done, we got under way with the P40 competition.

Sunday, PA Stunt started out under really questionable weather. The suggestion was made to "let's get started before the storm comes." We got some tough wind, but no storm. The pilots got out their big guns and went at it, and went at it they did. There were some nice flights and some "rough around the edges" flights due to the high winds. Sadly there were a few divots made in "Mother Earth."

Norm Faith Jr.





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Windy City Classic

Thank you so much.

Allen



Tom Broughton takes the crown in Intermediate at the Schaumburg contest run by Michael Schmitt.



Twenty intrepid midwest flyers attended Michael Schmitt's Windy City Classic on Sunday May 27.





Charles Fowler wins Beginner at the Windy City Classic.



Mike Ternstrom is the highest scoring pilot in Advanced at the Windy City Classic held by Michael Schmitt.



Jim Renkar will be a dangerous pilot if he can muster the flight time on the practice circle.



Allen Brickhaus wins Expert at the Windy City Classic, helped by Jerry Norin as pit crew.



Russ Gifford rounds out the list of Expert pilots at the Windy City Classic.



Larry Lindburg of Galva, Illinois competes in Advanced at the Windy City Classic.



# WAM Fund Day / Stunt Results

April 22, 2007 / Mavis Henson Field, Woodland, CA

CD: Paul Isenhower

ED: Jim Aron

## BEGINNER

Judges: Heman Lee, Gerald Arana

Tyler Moore	214.5
Brian Moore	196.0
Kevin Kemp	168.5

## INTERMEDIATE

Judges: Heman Lee, Gerald Arana

Dan Gomez	476.5
Doug Barton	434.0
Larry Wong	433.0
David Hueseman	431.5

## ADVANCED

Judges: Jim Aron, Bob English

Jim Goss	482.5
Cleon Lingwood, Jr.	480.0
Pete Cunha	451.0
Heman Lee	450.5

## EXPERT

Judges: Jim Goss, Bob English

Jim Aron	555.5
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## OLDE TYME

Judge: Doug Barton

Heman Lee	282.0
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Ruth Rediger, one of our selfless volunteers, logs a few more hours of tabulating time.



# Provide Stunt Heaven and They Will Come.....NOT!

High on Fun, Low on Funds

**People!** I know what happened. You made the effort to attend the Brett Buck Stunt Judging Clinic on Saturday (thanks Brett, great job) and it rained. You freaked out and watched the news. The weather forecast called for rain on Sunday and you fell for it. **HOLY BAROMETER BATMAN!** Since when do you listen to the weather person? Go outside, take stock and then take a chance. The weather was beautiful until about 3:00 when a few drops graced the field.

The lesson here, of course, is never ever pay any attention to forecasters, prognosticators or reporters of any sort.

For example:

“DEWEY WINS!”

“ENRON, IT’S A SURE THING”

“INTERNET? NEVER AMOUNT TO ANYTHING”

“COLUMBUS WILL SAIL OFF THE EDGE OF THE EARTH”

“FLORIDA GOES TO GORE”

“TUNED PIPES DON’T WORK”

“RAIN TOMORROW”

See what I mean? So the thirteen of us enjoyed a lightly attended day in the sun. Who needs ya?

There was a bit of the contest in **INTERMEDIATE** until Dan Gomez messed it up...scoreboard watching and everything. Dan’s score went up last and David Hueseman kicked a squirrel (figuratively).

In **ADVANCED**, Jim Goss proved he WAS sand bagging all those years, Heman found new and creative ways to lose pattern points and Cleon suffered the heartbreak only an ARF can bring. Pete got the hook and headed over to fly Carrier.

The Moore extended family filled out the **BEGINNER** ranks. Here’s a prediction: Kevin will eventually beat Tyler’s dad.

I came in both last and first in **EXPERT**, thank you so much, and Heman Lee grew **OLD** all by himself. No one was the worse for any of it.

Next year bring a bag of donuts and an umbrella and be pleasantly surprised!  
-Jim Aron

## PAMPA RULES



*Alice Cotton-Royer*

2435 NE 84th Ave.,  
Portland, OR 97220  
(503) 254-3173

*alice@artemisillustration.com*

### True or False: Does Bernoulli's principle work?

When I'm not flying airplanes, riding my bike or helping to raise my grandson, I am teaching math, art and a little science to school aged children. Once in a while we get caught up in a flight theme where we talk about airplanes, birds, aeronautical terms and experiments. One of my favorites has always been folding and stapling a sheet of paper into an airfoil and then talking about how wings fly using Bernoulli's Law. We blow on the leading edge of the paper airfoil and I explain how the air on top has to move faster than the air on the bottom so that both halves will meet at the end of the airfoil at the same time. This provides the wing with "lift".



After that explanation I always feel warm and fuzzy thinking I had passed on the important information all young people should know as they enter the adult world. I believe aeronautics should be part of one's upbringing as is math, reading, writing, music and art." I felt

happy that I had done my part by bringing my students state-of-the-art information about flying.

After all I flew airplanes, I should know!

Then... a parent of one of my students wrote this email.

"Hi Alice,

Anna's mom Carolyn here. I've been trying to understand Bernoulli's principle a bit more because I just didn't get it on Tuesday and I found this website. It's fascinating, and I'm trying to work my way through it... what do you think? Seems they raise some good points...

<http://www.aa.washington.edu/faculty/eberhardt/lift.htm>

Just thought I'd share it with you--

see you next week,  
Carolyn"

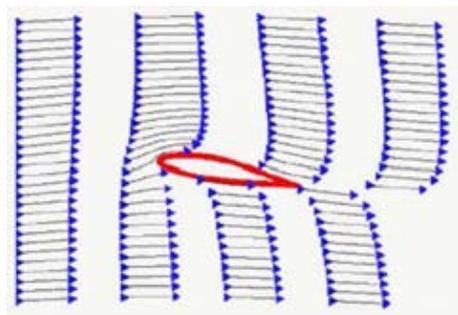
It sounded so simple, unthreatening and sweet, so, of course, I went to the web site (which has moved to <http://home.comcast.net/%7Eclipper-108/lift.htm>, and proceeded to have my mind completely and utterly blown away by David Anderson, Firmi National Accelerator Laboratory Re. [dfa180@aol.com](mailto:dfa180@aol.com) and Scott Eberhardt, Dept. of Aeronautics and Astronautics University of Washington, Seattle, WA 98195-2400, [scott.eberhardt@boeing.com](mailto:scott.eberhardt@boeing.com) who wrote "A Physical Description of Flight".

In this article the authors note that the popular description of lift was indeed the one I had been teaching and it goes something like this:

"Students of physics and aerodynamics are taught that an airplane flies as a result of the Bernoulli principle, which says that if air speeds up the pressure is lowered. (In fact this is not always true. The air flows fast over the airplane's static port but the altimeter still reads the correct altitude.) The argument goes that a wing has lift because the air goes faster over the top creating a region of low pressure. This explanation usually satisfies the curious and few challenge the conclusions. Some may wonder why the air goes faster over the top of the

wing and this is where the popular explanation of lift falls apart.

But, who says the separated air must meet at the trailing edge at the same time? Figure 1 shows the airflow over a wing in a simulated wind tunnel. In the simulation, smoke is introduced periodically. One can see that the air that goes over the top of the wing gets to the trailing edge considerably before the air that goes under the wing. In fact, the air is accelerated much faster than would be predicted by equal transit times. Also, on close inspection one sees that the air going under the wing is slowed down from the "free-stream" velocity of the air. The principle of equal transit times holds only for a wing with zero lift.



Above is a picture of a simulation of the airflow over a wing in a wind tunnel, with "smoke".

The popular explanation also implies that inverted flight is impossible. It certainly does not address acrobatic airplanes, with symmetric wings (the top and bottom surfaces are the same shape), or how a wing adjusts for the great changes in load such as when pulling out of a dive or in a steep turn?

So, why has the popular explanation prevailed for so long? One answer is that the Bernoulli principle is easy to understand. There is nothing wrong with the Bernoulli principle, or with the statement that the air goes faster over the top of the wing. But, as the above discussion suggests, our understanding is not complete with this explanation. The problem is that we are missing a vital piece when we apply Bernoulli's principle. We can calculate the pressures around the wing if we know the speed of the air over and under the wing, but how do



we determine the speed? As we will soon see, the air accelerates over the wing because the pressure is lower, not the other way around.

Another fundamental shortcoming of the popular explanation is that it ignores the work that is done. Lift requires power (which is work per time). As will be seen later, an understanding of power is key to the understanding of many of the interesting phenomena of lift."

Following this the authors proceed to explain another perspective, perhaps a truer one about lift.

"So, how does a wing generate lift? To begin to understand lift we must review Newton's first and third laws. (We will introduce Newton's second law a little later.) Newton's first law states a body at rest will remain at rest, or a body in motion will continue in straight-line motion unless subjected to an external applied force. That means, if one sees a bend in the flow of air, or if air originally at rest is accelerated into motion, a force is acting on it. Newton's third law states that for every action there is an equal and opposite reaction. As an example, an object sitting on a table exerts a force on the table (its weight) and the table puts an equal and opposite force on the object to hold it up. In order to generate lift a wing must do something to the air. What the wing does to the air is the action while lift is the reaction."

have all seen similar pictures, even in flight manuals. But, the air leaves the wing exactly as it appeared ahead of the wing. There is no net action on the air so there can be no lift! The second lower figure shows the streamlines, as they should be drawn. The air passes over the wing and is bent down. Newton's first law says that there must be a force on the air to bend it down (the action). Newton's third law says that there must be an equal and opposite force (up) on the wing (the reaction). To generate lift a wing must divert lots of air down."

At this point I wrote to one of my most respected and favorite engineers regarding all of this, Howard Rush.

"Hi Howard,

I don't know if I can ask you this question as politely as you asked me once before, but here goes.

I am teaching some physics about flight and Bernoulli's Principle has come up. There has been some discussion about how this Principle doesn't really explain lift and that there are other factors involved. This website was referred to me and there is an interesting discussion about lift.

**We learned to sand,  
We learned to paint.  
You were on top,  
But now you ain't.**

This ad paid for and approved  
by the Jive Combat Team

I would like to know your opinion on the whole lift thing and how do we explain inverted flight if the airfoil is upside down?

What do you think? I ask of a person whose engineering knowledge I most respect.

Respectfully yours,

Alice Cotton-Royer"

Here is what he said:

"Ms. Alice,

The Web site is correct, but there is a story here. 70 years or so ago, a nontechnical person asked Theodor Von Karman (I think) how wings worked. Von Karman, who knew better, made up the nonsense about the flow going over the top and bottom of the wing and meeting at the trailing edge at the same time. When one of his colleagues asked



The common view of air over an airfoil producing lift.



true airflow over a wing producing lift

We are then asked to compare the two figures above that show streamlines over a wing. In the first figure, the air comes straight at the wing, bends around it, and then leaves straight behind the wing. "We

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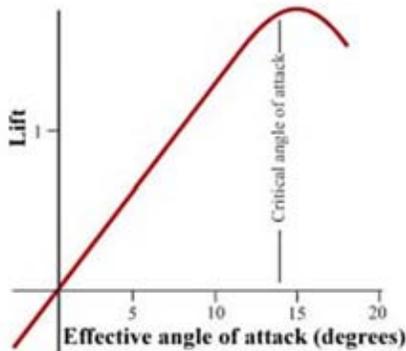
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why he made up such balderdash, Von Karman is reported to have said, "When you are speaking to technically illiterate people you must resort to the plausible falsehood instead of the difficult truth." It probably doesn't make much difference how people think a wing works except for the few dozen people in the world actually



doing basic aerodynamics. The equal-transit-time story caught on, though, and aerodynamicists ever since have wanted to wring the originator's neck and go to a lot of bother to refute the story. There's no scientific debate about how wings work.

I think I'd show the students the whole Web page if they've heard the equal-transit-time explanation and are confused. If they haven't heard that explanation, just omit the introduction and "The popular description of lift" section.

Figure 8 (the figure above) of the Web site shows lift vs. angle of attack for a symmetrical airfoil. To fly level, you put in a little up elevator to hold the wing at the angle of attack that gives just enough lift to balance the airplane's weight. If you put in some more up elevator, the airplane will do an inside loop. Enough up elevator to push the angle of attack near what Figure 8 calls the "critical angle of attack" will give an inside square corner. For a symmetrical airfoil, the red line of Figure 8 continues for negative angle of attack and has the same shape as for positive angle of attack. I forget what you call that kind of symmetry, but if angle of attack A gives lift B, angle of attack -A gives lift -B. So to fly level upside down, you'd put in enough negative angle of attack to give just enough lift to balance the airplane's weight. Wings

with airfoils that aren't symmetrical can fly upside down, too, but the "critical angle of attack" on the negative side will be closer to the y axis, and the airplane can't make as much lift upside down as right side up. Hence, an airplane with an airfoil with more curve on the top than on the bottom can turn tighter inside loops than outside loops.

Marilou's nephew in Nebraska asked the same question. I sent him a copy of *Understanding Flight*, the book cited at the top of this Web site. I know Scott Eberhardt, one of the authors. He is a really cool guy.

I hope to see you in Salem for the Follies,

Howard"

Well that did it. But before I could leave this topic and prepare my new lesson plans I needed to know about Theodore von Karman.



Theodore von Kármán (May 11, 1881 - May 6, 1963) was a Hungarian-American engineer and physicist who was active primarily in the fields of aeronautics. He was one of the few true giants of aeronautics that could compete with the great minds of the twentieth century. A genius by all accounts, he made fundamental contributions to the theory and practice of aerodynamics and related technologies. He was personally responsible for many key advances in aerodynamics, notably his work on supersonic and hypersonic airflow characterization.

Kármán's fame was in the use of mathematical tools to study fluid flow, and the interpretation of those results to guide practical designs. He was instrumental in recognizing the importance of the swept-back wings that are ubiquitous in modern jet aircraft. Von Kármán died in 1963. Craters on Mars and the Moon are named in his honor. University of Southern California Professor Shirley Thomas (after nearly two decades of petitioning) was able to create a postage stamp in his honor[1]. It was first issued in 1992.

If you should care to read the rest of the "A Physical Description of Flight" article at <http://www.aa.washington.edu/faculty/eberhardt/lift.htm> that used to be <http://www.aa.washington.edu/faculty/eberhardt/lift.htm>

the authors will talk about the Coanda effect, downwash, lift as a function of angle of attack, the wing as "air scoop", lift requires power, wing efficiency, power and wing loading, wing vortices and ground effect.

Enjoy!

-Alice Cotten-Royer



## ASK KEN



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This first question comes to Stunt News from Al & Deb in Australia. How do you get that old engine, the shabby, sticky, never cleaned one, looking like new (well as new as) again??? You know that one you just bought on eBay for a song because no one else wanted it, and you just had to save its' day. And, I don't mean the easy stuff, 90% of that comes off with Carby Clean. I mean the baked on stuff in the head fins and around the crankcase back plate, and in the nooks of the corners!

Thanks for the question. Hey, I always wanted to know if the engines turn the other way down under.... Anyway, there are several ways to remove the baked on engine stains. We usually call those stains varnish, but if it's more than 20 years old or so, it could be referred to as a "patina", thus according to "The Antiques Roadshow" increasing the value of the item at auction....

Soaking in carb cleaner will get off the level one stuff, brake fluid or transmission fluid will get off the level two stuff, and antifreeze will get off the level three stuff. At least it works for me that way. It could be the combination or successive use of different chemicals does it as well. Those were the things that I have in my shop available for testing. The antifreeze seems to be the most popular right now, but you should know that it is very poisonous and dangerous to use, as are

all the chemicals mentioned. Please read the warnings before you try any of this stuff. There are lots of DIY contributions to the internet that address this problem. If you're going to try this chemical route to clean, be sure to use eye protection and a non-metallic, stiff-bristle brush. Also, remember that soaking too long can turn some engine parts into jelly. Remember as well, all of these chemicals are not environmentally safe, and there are alternatives like citrus and alkaline base cleaners that biodegrade slightly faster than a Wen-Mac.

Some of us have purchased a "sonic" cleaner that uses vibrations, and sometimes chemistry (if you use one of the aforementioned chemicals to soak in), to loosen up the stubborn stains. These units are used for dentures, jewelry, and eyeglasses, but can be adapted for hobby cleaning as well. What you should look for is a stainless steel tank with enough capacity to hold what you want cleaned. The following brand names all have stainless steel tanks, and the capacity as listed:

Haier Ultrasonic, 20.oz tank (0.592 litre / liter, or 592 CC).

Frontgate Ultrasonic, 4.75 oz tank (0.014 litre / liter or 140 CC).

Sonicwave Ultrasonic, 20 oz. tank (0.592 litre / liter, or 592 CC) (looks a lot like the Haier unit)

You can pay anywhere from \$40.00 to over \$500.00 for an ultrasonic cleaner, but any one of these listed sells for around \$40.00 (American). These all work for cleaning common stuff. Because they have a stainless steel tank, if they don't work for your hobby, you can clean them up real good for use on your dentures or eyeglasses. They also clean-up coins and jewelry real well, so it will not be a total loss if it doesn't work for you. Alternately, watch eBay closely, and you can get some real deals on used professional equipment.

Be careful, sometimes it's the caked on crud that is holding things together, and cleaning it absolutely destroys the engine for anything except display.

In the Gee-Whiz category: If you do clean your disassembled engine to the ultrasonic standard, you will need to make sure that it is lubricated properly during the rebuild. This is so that it will

function properly before the castor or synthetic gets to the friction points. Use STP, or Slick-50, or Motor-Honey, or one of the high heat lubricants to coat the parts and protect them for the first few seconds of the first run after reassembly. These types of additives will also turn into varnish right away, and help with the re-break-in of an old motor. Sure, 3-in-one and Marvel Mystery oil work as well, but normal oils have a tendency to be washed off by the methanol in your fuel, and if you have ever tried to get the STP off your hands after a job, then you understand the type of persistent lubricant you need for rebuild or assembly. Do not continue use of these aftermarket oil additives after the initial build, it will gum up the works real fast.

Where can you get normal sized, decent, control line engines at a reasonable price?

In the search for ready to buy "normal" sized control line engines in the decent (under \$100.00) range, the selection is pretty thin here in the States:

OS LA .40  
OS LA .46  
Fox .35  
Brodak .40

All of these engines are the target of some sort of after-market make-em-run-better modifications, or rework-at-a-cost scheme. Basically, they don't need it. Ideally they do, and some re-workers get much better performance from the basic models with well thought out modifications. Bottom line, if you are in close competition, you might benefit from the modifications. However, after the added expense for parts and rework, you could get one of the high-dollar, built for competition, engines for the same price. For most of us daily stunt flyers, these engines work just fine as-is.

I own all of these, and have flown them in a variety of planes. The Fox is our "Baseline Engine" and sells for \$59.99 at Tower Hobbies (TH). It requires careful break-in, is sensitive to tank position and needle setting, but nearly everyone owns or has owned one, so the advise and parts availability are great. It has a wonderful 2 - 4 cycle power break, and was "the" engine that many, many, planes were designed around. Once it is broken-in, and has transformed into the

proverbial one-flip-Fox, it will get great fuel economy and be pretty dependable. I like it.

Unlike the Fox, the OS engines do not require any substantial break-in, have very good power and economy, are readily available, and at \$59.99 each (TH) are a real bargain. They do have minor needle setting problems, and are sensitive to tank position, but what engine doesn't to some degree? They are dependable, and predictable. I like them.

The Brodak is my favorite. Can't tell you why, it does require a Fox type break-in, and like a Fox, can be pretty cantankerous for no real reason (before break-in). It is nearly twice the price, and isn't a chrome-shiny type pretty engine. However, once it is broken-in, it transforms from the rough Mustang it is out of the box, into a real thoroughbred. They are not as sensitive to tank position and needle setting as a Fox, and get around the same fuel economy. They have great power, and are very dependable. Mine sports a silk covered RSM Jamison these days, and I like it!

A while back I inherited a very well used Viking that was built by Lou Wolgast originally some time around the turn of the century (I've just been waiting years to use that term - Sorry Lou). It is now officially the world's heaviest Viking (fuel soak) and has had all of these engines in it at one time or another. The Fox didn't pull it. It flew it, but not without hair-raising moments. The OS engines did well, the .46 just notably better. The Brodak pulled it through everything without breathing hard, as did my old K&B .40. Now, the Viking is flying with a rebuilt Super Tiger .46 that I'm breaking in for a friend, but the K&B and the Brodak had better power.

Don't think that those four engines are all there is available. A little parts research finds the OS LA .40 and .46 use the same crankshaft as was used on the venerable OS .35 FP, and they all use the same venturi, Tower Part Number 23312000. This venturi with its' O-Ring (Tower PN LXCX05) and a Super Tiger needle valve and spraybar assembly can convert any of the following R/C engines into a decent control line engine:

Tower .46	\$79.99(TH)
GMS .32	\$54.99 (TH)

GMS .40	\$59.99 (TH)
Magnum .40	\$59.99 (TH)
Super Tigre .34	\$69.99 (TH)
Super Tigre .40	\$59.99 (TH)
Super Tigre GS .40	\$49.99 (TH)
Thunder Tiger .36	\$79.99 (TH)
Thunder Tiger .40	\$84.99 (TH)
Thunder Tiger .42	\$62.99 (TH)
Evolution .36	\$79.99
(Doug's Hobbies)	
Evolution .40	\$79.99
(Doug's Hobbies)	

Remove the carburetor from them, insert the venturi and needle valve setup in its place (with some very minor fitting), and they all are affordable control line engines as well. One thing to remember; these engines are not timed for control line flying like the Fox and Brodak, so their power band is at a higher RPM. That means that you will need a flatter pitch prop, and possibly one of a larger diameter than normal, to keep the slower speeds needed for a good stunt pattern. In some cases you will need to build up the diameter of the venturi at the base for a better fit, and in some cases you will need to reduce the diameter. As long as you get a tight fit with the O-ring (some folks use RTV to help the seal) and a good seal around the needle valve body you will not have problems.

Of these, the Thunder Tiger .36 really shines. I was told to add an extra head shim for a better stunt run, but mine ran great without modification. It has the "guts" of a good .40 and dependability of the OSLAs, but is a touch more expensive after modification than a Brodak .40. For the same money, I'll get another Brodak and suffer through the break-in....

The good news is you can find these R/C engines all day long at swap meets, and on-line for half the retail price. So, after modification, they are still pretty reasonable.

More good news, there are a lot more of the .32 to .52 sized R/C engines around that will accept the OS parts in a retrofit than those mentioned. The best news is there are some cottage industry engines that are specifically made or modified for control line at prices slightly over the \$100.00 mark like: Randy Smith's reworked Thunder Tiger .36. Check the past and present pages of Stunt News ads for more. You'll find Happy Camper Foxes, and Silver Foxes to mention a few,

as well as L&J Foxes from RSM. There are more, forgive me for not mentioning them all.

### What's the deal with all the glow plug ratings and heat ranges?

This question opened a real goldmine of on-the-web information but, before we get into that, I'd like to say that I'm not an "Engine Guy." I'd like to tackle some more flying and building questions as well. Recently I bought a slightly started Sterling P-38. It had three pieces glued together with Ambroid; right spar, left spar, and the plywood brace. This prevented me from putting all the pieces into the box, so that I could put it on eBay. I put one drop of Goldberg's De-Solve on the joint, one on the top left spar-brace joint and one on the bottom left spar-brace joint. The Ambroid was "dissolved," the joints came away clean, and the spar is now in the box! OK, so acetone will do the same thing. You can't buy Acetone in neat little plastic bottles with applicator tips, and De-Solve really did what it claimed. This is very surprising for stuff that comes in bottles, and it deserves some mention.

OK, because a lot of this Glow Plug answer comes from the web, it could be the unquestionable truth, or a pack of seething lies, you decide. In the search for truth, I first asked friends in the control line racing community for their input. That's because the only times I have ever seen a guy say something like, "that engine needs a colder or hotter plug", changed it, and actually got a noticeable performance change after the switch, has been in the racing community. Don't confuse this with the age-old plug change after you disconnected the starter battery and got a noticeable drop in RPM. I'm talking going from a hot to a cold or vice-versa plug to get better performance.

First some absolutely useless knowledge from questionable internet sources that may set the stage for our little venture into understanding glow plugs. Apparently sometime around 1947-48 a fellow named Ed Chamberlin was messing with fuel concoctions for his ignition engine when he discovered that one of mysterious brews caused his engine to keep running after he shut off the electricity to the spark plug. He supposedly called the stuff "Liquid Dynamite" and it has evolved into what we all know as the methanol based



model airplane fuel. I always thought Nitro-Glycerin was the liquid state of TNT, but then we call things what we want, like hemorrhoids, when they should instead be called asteroids. I have a small problem with spark plug internals heating up to the temperature that would support detonation, but that kind of rains on the story a little..... So, anyway, after some research, he finds out that a small coil of nichrome wire works much better than the spark plug electrodes, and the whole Glow Plug thing starts.

There are three basic types of glow plugs: Short Reach, Long Reach and Turbo. The short reach plugs can also serve to decompress your long reach engine pretty much the same way putting two copper washers on one plug does. The long reach plugs should never be used in an engine that was designed for short reach plugs. To test this, remove the plug from your engine, and turn it over to top-dead-center, which is the farthest up your piston can travel, and insert a small dowel, or toothpick (or something else that will not break off and get lost in your engine) until it touches the top of your piston. Mark the depth on the toothpick with a felt tip pen, and compare that depth with the thread length of a long reach plug. If you have more toothpick than plug thread, it's a long reach, if there is more plug than pick, it's a short reach. Don't do like I did once, and install a long reach then try to turn it over slowly, "feeling" through the prop for interference. It cost me an engine. Oh yeah, Turbo Plugs! They are made specifically for Turbo-Head engines, and nearly all of those are car, boat, and helicopter, so we stunters shouldn't need them at all! Turbo refers to the beveled lower edge of the plug, and its' tight, washer less, tapered thread fit into the head. This boosts RPM when done properly, something that Stunt flyers don't commonly need.

There are three basic heat ranges for glow plugs as well: Hot, Standard, and Cold. Some plug manufacturers don't bother with "ranges," some really over do it, and none of them are standardized to any degree (pun intended) to each other. What is cold to one company is medium or standard to another, and likewise hot could be any range. Plug heat ranges are kind of confusing anyway. They all

glow red when lit, and if that isn't hot then Don Ho doesn't know a thing about "Tiny Bubbles" (too bad about Don, he'll be missed.....). The hot plugs are supposed to be used for low or no nitro fuels, and/or cold weather. Cold plugs are supposed to be used for high nitro fuels and/or very hot weather, also for very high revving engines like car, boat, or helicopter engines in mild weather. That's a bit of advice that I got from the CL racers.

Back in '75 the U.S. Air Force saw fit to move my home from one side of the country to the other, and smack in the middle was Ft Smith, AK. So, I arranged my journey to have me overnight at Ft Smith, so that I could tour the Fox Mfg. plant the next day and hit the road around noon (this story is much longer than presented, and after one or two beers it also gets significantly more interesting). After touring the plant with, who else, Duke Fox, We stopped at a table where some ladies were assembling and spot welding glow plugs. It was absolutely fascinating to watch their skill and dexterity at hitting that tiny coil in just the right place to finish up the plug. And, they were all working through a big magnifying glass with a circular fluorescent light attached to boot! Well, a nice fellow named Ken Greene walked me into the on-site hobby shop where, after a major buying spree, I found a bag of 100 Fox Long R/C plugs. Those cost me \$10.00 American, and I have been using them, with almost no trouble, in nearly every engine I own since then, I've got around 10 of them left, and wouldn't trade you anything for them. Well maybe a yellow box Ringmaster, but that is another story.

Glow Plugs also come in idle-bar and non-idle bar designs. Basically a strip of metal is set in place between the coil and the open air of the piston. Designed to keep richer mixtures of the fuel present in an R/C engine at idle from blowing out the flame of the glow plug, they also serve to keep globs of fuel from striking the heated coil at high speed as well. Different types of idle bars are also available; some that are welded into place, and some that are machined into place. The machined idle bar plugs (like Fox R/C Long) will never come loose and destroy your engine, and I have seen other idle bars come loose and do

this in some pretty expensive and prized engines.

Lastly, there are three basic types of coils inside glow plugs: Platinum, Platinum-alloy, and Platinum clad or plated. Platinum is the best, and on down the scale from there.

Of course there are more combinations of wire than just platinum type, and there are more ranges than cold, medium, and hot, and a variety of voltages are available including 1.5 and 2 volt (dc) plugs. Use what works for you, and to help with that, here are a few websites to give you more information, or you could go on-line and search: "glow plugs" like I did..... Happy Trails,

-Ken Gulliford

<http://www.osengines.com/accys/glowplugs.html>

[http://www.foxmanufacturing.com/index.php?main\\_page=advanced\\_search\\_result&search\\_in\\_description=1&keyword=glow+plug](http://www.foxmanufacturing.com/index.php?main_page=advanced_search_result&search_in_description=1&keyword=glow+plug)

<http://www.hobbypeople.net/mfr/mccoy01.asp>

<http://members.lycos.nl/helisonly/GlowplugHowTo.PDF>

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## BUILDING



### Ron Burn

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Hello, it's me again, you friendly Curmudgeon with a few things to do and a few to ponder, CL Stunt is a hobby, sport, hobby, sport; you can start arguments by supporting either side. I've never been able to see why they're mutually exclusive. Both are true, but I'd add another: ART. Building is a craft and an avocation, the definition of a hobby. Flying the pattern is a competition pretty much defining it as a sport.

The airplanes are art (at least as I see them). Art is a combination of craft and personal expression, and we see it in both the airplanes we build and in the way we fly them. Like any other art, it helps to know the basics and have the tools to accomplish your art. In building a model you'll often find a need for a tool to do a specific job. There are several ways to get the tool you need. You can buy it, if it's available; make it; make do with what you have; or, in some cases, find another way that doesn't require it.

Decisions, decisions! Faced with the choice, the first thing I do is look at the operation. How critical is it to the function of the airplane? How critical is it dimensionally? Is it something I will be doing over and over, or is it a one time, one model thing? Is it going to require a major

expenditure? (For me this is anything over ten bucks), and, lastly, will I ever use this tool again and how often?

In any case, the right tool makes the job easier. Cavemen shaped flint by flaking it with pressure from a deer antler. Michaelangelo had a much easier time of it; he had an iron hammer and steel chisel. Nowadays we'd use an air tool. The point is all of the tools worked; they just made the job more or less difficult.

As I said in our last episode, I make a lot of my own tools and fixtures, especially small hand tools for specific uses. Here's an array of homemade tools that were made from various other tools. Most are made from older tools designed for a different use but too worn for that purpose. Some are made from new, cheap tools from the bargain table.



A number of tools made from cast away steel chisel and hagsaw blades.

Let's start with an extra wide chisel made from a drywall tapping knife. I use it for shaping flaps and elevators. It's used much the same way as a sanding block, but it's faster and develops a flat, straight surface. The chisel is made by simply grinding a much shallower angle edge on the tapping knife, then honing it to a very sharp edge, much like a plane iron, but at a lower angle. I use the "Scary Sharp"\* method, but any good sharpening system will work. The one big requirement is that all the edge is on the honing surface all the time, or that there's some other means of ensuring a straight edge. This ensures a flat, straight cutting edge, and a flat straight part.

\*Scary Sharp is a method of sharpening by the use of wet abrasive papers on glass. Stepping

through the grits from very coarse, if you're straightening a damaged or rough edge, to very fine (2000+) for "stropping". Just type "Scary Sharp" into your search engine.



Note the wide straight highly polished edge.

I suppose, at this point you're asking how sharp can it be? The answer is: as sharp as a straight razor, as long as you maintain it. Being far softer steel (even if you start with a good tapping knife) it will need stroking on the 2000 grit after doing each flap surface. I'm not talking re-sharpening, just straightening the "wire edge".

In use, set up your spacing wires the same as for the sanding method, and simply shave away everything that sticks up. Maintaining an angle across the part will allow cutting with, across, or even (if you've done a good honing job), against the grain. Typically, depending on thickness, two or three slices with this tool will get you within 320 sanding distance of a finished flap or elevator. After a little practice, you'll be able to take anywhere from a newspaper thin slice, to half the thickness in one cut. The wire guides keep you from cutting too deep. The only thing you really have to watch for is taking so deep a cut that you tear the stock by wedging it apart. The relatively thin blade is less subject to doing this, especially with a low angle cutting edge. The only "tricks", if you want to call them that, are to maintain a very shallow angle between the chisel and the stock, and to restrain the stock from any movement. The first is a matter of practice. The restraint is easy with double faced tape, framing stops at each end of the stock, longer stock with end clamping, or any combination of the



above. It's a far better solution than a plane, as typically, a plane won't span the distance between the wires at the widest point. (Also, I don't know about you, but I don't want to put a good plane iron against two pieces of music wire.) And it's better than sanding to shape because of the precision of the process. Actually, the sanding step is only necessary to remove the surface layer and the stresses therein.

working areas. Then about the only caveat is to avoid overheating when grinding\*. Once you've made a couple of these tools you'll find more and more uses for a small, thin, or narrow tool or knife. The chisels are far better than those in the average Exacto selection. They also have more reach that can make hinge slotting a lot easier. To make a hinge slot simply make two plunge cuts one with the edge face up and one



Two putty knives rescued from the putty knife retirement home.



Old hacksaws never die they become slotting tools

Next is a series of slotters/small chisels/drags/punches, made for hinge slotting, etc. They are simple and straightforward, all made from reworked hacksaw blades. Worn out hack saw blades are ideal, since they're free. The best ones are the ones with straight (low or no set) teeth and no "waviness" in the edge, but any will do. Break or grind through at the center and use that portion as the edged end. This is because hacksaws sometimes are drawn to a lower hardness at the ends and also on the back side. Any narrowing should be done from the back side of the blade away from the toothed side. The edges are done just as with the wide chisel above. Shapes can be roughed on a bench grinder then finished with a bonded diamond Dremel point. Always start by grinding off the teeth in non-

with it down. Turn the tool around and punch out the core material. If you're working in a solid surface, or where you can't recover the swarf, use the hook blade to pick it out. As you can see in the photo, these tools can be made in any shape you happen to need, wide, narrow, hooked, straight, angled, whatever is needed.

You know when you've overheated it when the edge starts to turn brown or blue. If this happens you have to remove at least 1/4" and start over. Once steel is overheated there's no practical way to save it. Once it's shaped and it's sharpened you

can put a handle on it, but I usually leave them bare. Don't be limited by the shapes I've shown. Sharpening the side of the blade from one, the other side, or both can make almost any kind of knife.

Shown above and also shown in the first photo are the two chisels/shaving knives made from cheap putty knives. Here they are close-up they're narrower than the first one and one of them is thicker than the other. They're very useful for removing glue from the surface at a bonded seam. They're very sharp, and can be held bent against the surface so that only the glue sticking up is removed.

Well boys and girls, it's time to say goodbye for another two months. I hope you enjoy this flakas much as I enjoy passing it on. I still haven't heard from you. There must be some little technique or method that you use all the time and could pass on to your fellow modelers.

-Ron Burn




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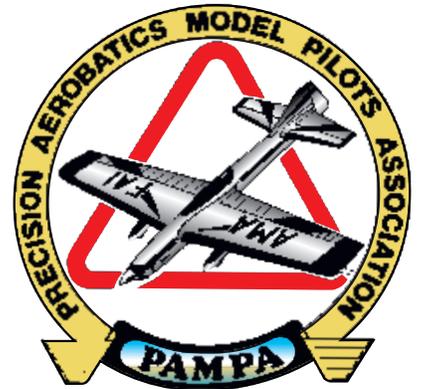
# CLASSIC PLANS



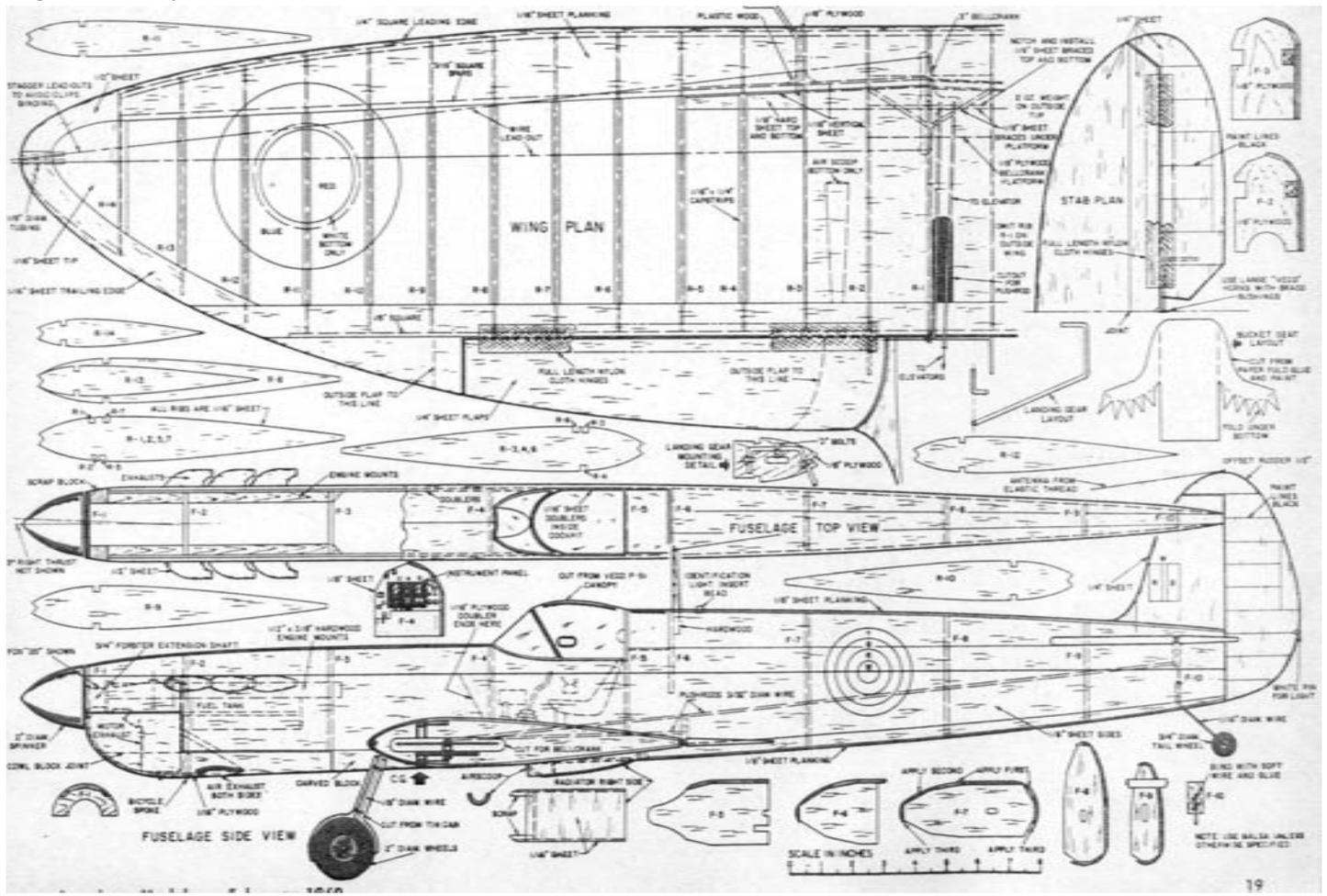
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Classic Era stunt ships that I believe deserve to be built, flown, and admired again for their beauty, simplicity, and charisma. If you know of an unknown or little known Classic Era stunt ship that fits the above criteria, let me know and we will get it in these pages.

-Tom McClain



“Aerobatic” Spitfire by Charles A. Mackey, American Modeler Magazine, February 1960.





## CLUBS



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This is one of those things you are probably already doing in your club, but if not.....heh, it's worth a try! What I am talking about is having your club meetings down at the flying field. For many of us, our regular club meetings are held some week-night evening in one of our member's homes or a local library, or... But when flying season starts, why not move the club meeting to the flying field?

If your club is like ours, you probably notice that there are members who come to the club meetings and there are members who show up at the flying field. In some cases the same people who come regularly to the meetings also come to the flying field. But in many cases not! So here is a way to get some of your less active (flying-wise) members out to get some fresh air (that means sniffing the castor) and maybe even a little flying time. Of course, they don't have to fly. The attraction of the club meeting to some members is that they can get out of the house and sit around and chew the fat with some of their old buddies. Whether they fly or not makes little difference to them. So be careful how hard you push the flying part of the "club meeting at the flying field" on them. You don't want them to bolt! They may be happy to sit and watch others fly. You might ask if they would like to do a little practice judging. In this case you need to come

prepared with some judging sheets or perhaps some critiquing sheets (these are the sheets that identify each maneuver individually with a little drawing that they can mark errors on.) If you can stand the kibitzing, this might pull them up to a higher level of club participation. You might even end up developing that most precious of commodities in Precision Aerobatics: the stunt coach! You don't have to be able to fly perfect maneuvers to be a good coach, but you do have to be able to recognize a good or a bad maneuver when you see one! One of your armchair pilots might end up being the greatest help you can find - the guy who finally helps you make round loops! Wow! And double wow!

Now, about the club's business meeting: since the purpose of a club meeting at the field is to give everyone a chance to fly, make sure your business meeting is as short as possible. This is why you have an Executive Committee. You do have an Executive Committee, don't you? The Executive Committee can meet at some other time and location and get the grunge work of running the club out of the way. They can decide what to recommend and you can have a very short business meeting basically consisting of voting approvals to the various issues that the Executive Committee has resolved. Open the business meeting, approve the Executive Committee's recommendations, close the business meeting, and then back to flying.

Okay, what else? Let's see.... make sure you bring some extra lawn chairs. You know that, sure as shooting, someone will forget to bring theirs. Don't forget the bug spray. Someone will forget that also. Finally, bring that old ARF Nobler of yours in case someone wants to fly something but their latest ship isn't complete. (Of course, it hasn't been complete for three years and that's why they come regularly to the club meetings but not the flying field. Maybe a flight on the old Nobler ARF will get their interest level up! See, those ARFs are actually good for something!) Remember to ask these questions of the guys showing up with a plane for the first time in eons:

1) "Did you do a quick safety check to make sure all the bolts are tight, prop-nut is tight, and the push-rod linkages are good?"

2) "Are the fuel lines very new and have you flushed out the tank or filter recently?" etc.

3) "Did you check the handle and that the up-line is attached to the top?"

4) "When's the last time you ran that engine?" This one is important: if he hasn't run that engine lately, he'll set it down on the take-off pad and then fiddle with it for the next half hour. He'll drive everyone nuts and then complain later about how the "stunt gods" think they own the flying site and treat all the duffers poorly. If that engine hasn't been started lately (as in "this century") you need to keep him off the flight line



Keep the business meeting short when you hold your club meeting at the flying field





Business meeting over, time to fly until it has. Help him start it over in the pits or wherever your approved engine running location is. Get all the kinks out so he can enjoy his first flight of the season.

5) "Can I help you start that?" Send him out to hold the handle and get the engine started. Get the needle set correctly for him, and then give him a good launch. If you fly stunt, you probably know how to get an engine started quicker than anyone else in the club (actually, if you don't, you should!)

It is important to understand

something: the club meeting at the flying field may not be as nice a flying session as it is when you are out there with just your regular flying buddies. Keep in mind that you are having the meeting at the flying field for the benefit of the club and for some of the club members who don't get to fly that often. This is not about you! But done right, you could benefit. Greater participation should pull the club together. A more active, cohesive club will be able to hold onto that flying site, have more events, and help you enjoy the sport more.

of "heh, wouldn't it be neat if we..." Think about the things you wish your club were doing right now and write them down. Talk them over with your fellow members and make sure they get on your club's planning agenda so you will have them next year. Too many times nothing happens because we wait 'till its too late to really do a good job. So now's the time to plan!

-Scott Richlen

p.s. remember what I said in the last column? Now is the time to start thinking about what you'd like to do next spring and summer. This fall will be too late: you'll be winding down to winter and wondering what to build for next year's campaign. So right now is the time to have that thought

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## CRASH REPAIRS



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This summer I helped a fellow club member repair an ARF that had hit the ground hard enough to loosen the wing to fuselage joint. It was a rather quick repair, but it gave me an opportunity to explain how important it is to get this joint strong.

Where the wing and fuselage meet is a critical structural joint. When done properly, it minimizes vibration. When weak, though, you can get unnecessary fuel foaming and shorten air frame life associated with vibration, especially if you don't balance props regularly. Because of their smaller "footprint," profile ships need extra care when joining the wing to the fuselage.

As soon as the tiniest crack appears in this area in a finished ship, seal it with thin CA until a full repair can be done. That will prevent the crack from spreading and allowing oil to seep in, which can make a permanent fix even more difficult. First, you absolutely must clean off all oil with K2R and/or baking soda, as the bonding surfaces may have been contaminated with oil residue. Then roughen up any smooth or shiny areas with 80-grit paper.

I like to use slow-curing epoxy for all wing to fuselage joint repairs. Some heat from a hair dryer allows better epoxy penetration, but you do trade off the working time when you heat any epoxy—even a few degrees of

heat shortens the pot life. Heat the area with a hair dryer to get the epoxy to flow, but not so hot that you see bubbles in the mix. The temperature just before

the mix bubbles is optimum for best flow-out—at that temperature, the epoxy should be like water. Clean up any that oozes out with a paper towel just damp with isopropyl alcohol, but not so wet that it hurts the finish.

If you can, "fillet" the repaired area with some half-ounce glass cloth, then when everything is cured, make an appearance fillet with Brodak Aeropoxy Lite. I always make fillets with Aeropoxy Lite, not any spackle-type material—spackle doesn't have any meaningful strength. Brodak primer over the fillet will ensure no bubbles or paint lifting.

This same repair technology applies to stabilizer to fuselage joints, too.

A good trick when using any epoxy glue or even Brodak Aeropoxy Lite is to make the joint, repair, or fillet, then park your car in the sun with the windows up and let the parts "cook" in the vehicle. Even in New Jersey, I've recorded over 100 degrees in my Windstar when it's parked in the sun.

Another item I think many of us have repaired over the years since 1/8" horn wires have become popular is their attachment to flaps. In the old days, thinner horn wire could just be bent without doing any damage to the wood it was attached to, but modern horns need to be treated with care so as not to crack or weaken the supporting wood. Ideally, horn wire should never be tweaked, but several people have made blocks of hardwood to act as "handles" and spread the load while tweaking. Bill Rich uses lead with the sticky foam bent to contain the wire, Rich Giacobone makes blocks of ceramic, and there are other ways. If you just grab a horn and tweak it with your bare fingers, though, more than

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likely you will damage the support wood. If you do, I recommend glassing over the cracked area after soaking everything with thin CA.

Bob MacDonald had a great invention years back using a set screw and multiple uprights to make horn tweaking unnecessary. Bob Zambelli has a unique system under development and patent. I made my own adjustable horns similar to Bob MacDonald's for several ships, but I still prefer trim tabs to tweaks for many reasons.

George Waters has a great system on his A-26 twin where almost scale ailerons can be adjusted independently and accurately. Jim Casale used to put blind nuts on his wing TE so he could bolt on appropriate trim tabs when necessary. Joe Adamusko uses a trim tab contained by the tip weight box—very sanitary and easy to fine-tune.

But if you like the age-old horn wire tweak, just be sure after the tweak your attachments are still rock solid. Music wire many times returns gradually to its original position at a most unwanted time.

Another safety check: Anytime you have a leaking fuel tank, check for damage to glue joints—especially epoxy wing to fuselage joints. These are the most stressed on the model and receive direct vibration, and they can be damaged from the raw fuel leaking from the tank. Raw fuel contains alcohol and maybe nitro, which are two of all epoxy's worst enemies. Clean with K2R and glass over any joints that may have been damaged by raw fuel.

-Windy Urtnowski



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### Designing for yourself

OK, time to generate controversy and spread hate and discontent. <smile>

Recently, on one of the online forum, I was in discussion about high aspect ratio designs with the master, Dennis Adamissin (welcome back Dennis!). While we had some variation in our thoughts about this, we are largely on the same page as to the advantages and disadvantages of such designs. The discussion got me to thinking about my rather extended love affair with these designs and how we decide on our approach to design in the first place.

As I've said many times before, Brett Buck is the numbers guy of this column. He and guys like Paul Walker and Ted Fancher have (very successful) ways to

approach design. They approach it from an aerodynamic standpoint. They come up with "numbers" that are either previously proven to work in other designs or their calculations and extensive testing have proven to them such approaches will be successful. They layout those factors then design a plane around it. This obviously works and works well.

Other go about it differently. Al Rabe picks a scale design like the Mustang or Bearcat then makes the minimum modifications needed to insure a competitive stunt plane. Anyone who has looked at Al Rabe's or Ron Bunn's planes knows that beside being works of art, they fly pretty well. They are bending existing scale designs to come up with a stunt plane that is within competitive limits. Again, this works.

Back in the late 70's, I first saw one of Dennis Adamissin's high aspect ratio designs, The Orange Crate, in an issue of Flying Models. I was totally taken with the looks of this design. And it made sense to me in many ways. About 1983, I came up with my first design of this type. Of course, I went a bit overboard, but that's me. The first couple of planes of the series were very high aspect ratio, one at close to 10 to 1. Over the years I've revisited this approach and made what I think are improvements. Unlike the above approaches, this was somewhat different. Rather than taking proven numbers or using only elements that are known to work, this was taking certain ideas that work extremely well in other disciplines and trying to minimize the rather substantial negative side effects that the elements that work so well create. High aspect ratio wings lift better than lower aspect designs. No question about that. They can carry more payload and still avoid stall at much higher angles of attack than more "normal" designs. This creates the most killer turn you can imagine. Even with quite high payload. There are several drawbacks. With lift come drag. These very high aspect ratio wings take more what I'll call stabilizing that lower aspect design and the general layout tends to make them somewhat more sensitive to speed changes. As the plane speeds up, the wing becomes more efficient. Depending on conditions, possibly much more efficient. This is true with more normal designs too, but the envelope is quite a bit bigger. Depending

on other aspects of the design, a change of a few miles an hour can make a very big difference in control sensitivity.

There are ways around this and I've managed, over the years to substantially reduce this tendency.

The second issue, and one that is somewhat more complex, is that such designs tend to be somewhat more sensitive to turbulence. Now, I'll be the first to admit that the sort of very thick, very blunt airfoils I've used with such designs tend to exacerbate the issues. As time has gone on, I've mitigated this to some extent.

Since 1983 I've built 15 such planes. 10 of them full boogie competitive planes (well, semi-competitive anyway). The success of the program has varied. All of them do some things exceeding well and others poorly to one extent or another. The last of the series, built in 2003, seemed to be the best of the bunch.

Many folks have asked me why I continue to beat my head against the wall, er, let's say, work with such out of the envelope, temperamental designs. I suppose there are a couple of reasons. One is the challenge to see if I can overcome the drawbacks of such an approach while maintaining the stuff that they do so very well. The other reason is more problematic to explain. You just have fly one to understand. They are the most fun planes to fly that I've ever had. Somehow, I just can't forget what the corner on one feels like. Sigh... But the frustration of the relatively numerous drawbacks has kept me from messing with them for awhile. But like a drug habit, I'll eventually feel the call again and try to work it some more.

Anybody know of a high aspect ratio design treatment center?

A couple of things I've learned over the years:

- 1) The way to get around the sensitivity to speed change is first, to try not to have the speed change. I watched Paul's new electric powered Impact fly at a recent contest. That may be just the ticket... when I hit the lotto. Second is to be sure to balance the payload to the lift potential of the wing. I've done this a number of ways. Ask Ted Fancher about how he got his Tucker Special to fly and you'll see what I mean.

- 2) Use a long tail moment and a very large tail volume coefficient. One of

the first things you find out in flying one of these is that they turn almost too well. It takes a bit longer to stop the turn where you want it.

3) I've tried both straight wing trailing edges and sloped forward to varying degrees. Some pretty substantial. All the problems with sloped forward trailing edges are hugely magnified in high aspect ratio designs. Don't do it or at least use it sparingly.

4) Sensitivity to turbulence is a problem. It can be mitigated by not going crazy on the aspect ratio. The first plane was 9.8 to 1. The last was about 7.8 to 1. I also used half span flaps and a modified tip design that helped. It's still there, but not as bad. I'm thinking of trying an elliptical approach to further reduce the sensitivity to turbulence. Dennis tried this with his Futurist and it could be just the thing.

All and all, you're better off with a conventional design. No question. Better return for the effort involved and a predictable outcome. But agonizing over these designs over the years has had its moments. It has definitely had its moments. Much like the Grateful Dead, it's been a long, strange trip.

~~~60 miles an hour, 4 feet of the pavement, inverted---Fly Stunt!~~~

-Randy Powell

## Brain Fade

I was recently reminded that I had promised to give all the secret magic numbers behind stunt design. I thought I had already written this sort of article - but it turns out it seems to have gone missing somewhere between my brain, the iBook, and Stunt News.

### The Numbers Game

I am hesitant to continue to propagate the "magic numbers" school of stunt design. The basic idea behind magic numbers is that if you know all the right dimensions/ratios, you will be guaranteed to have a good airplane. So designing an airplane becomes an exercise in attempting to slavishly reproduce the gross measurements of a known good design and thus be guaranteed to have a NATs winner. If it were only that easy! Many of the typical measurements can

easily be changed by 10-20% either way at almost random, and it will be close enough. It's the DETAILS that matter, not the gross characteristics.

However, it had better be within 20% of the right starting point, so I will try to go through the basic characteristics as a starting point, with some cursory comments on why they are what they are.

Everything following is based on the use of a modern piped 40-76. This type of model has been ubiquitous in US competition in recent years and hasn't changed greatly since people were running ST46-ST60, and the same models are known to be pretty good with 4-strokes and even (recently) electrics, so it will give a good baseline to start from.

I would also note that I wouldn't bother to scale up or down between a 40 and a 76. Most of the planes today can be flown with any engine in this range with hardly any difference in the performance. This is because even a "lowly" 40VF has enough raw power to fly the airplane. All you are really doing by changing engine sizes is changing where in the power band it has to run. If you don't believe me please ask Mr. Walker or Mr. Rush to demonstrate.

As a final caveat before I go into the details I once again emphasize two key points - these are only my opinions and everything I know is the product of others. For the most part I am just building and collecting things discovered or developed by those that came before me.

### Weight

With all the current hardware (engine/header/pipe/tank/control systems/etc.) and with any sort of decent paint job, the airplane is almost certainly going to weigh somewhere more than 56-58 oz. That's the dead bottom end. You have to figure on something like 22 oz of hardware, and maybe 10 oz for finish. That's 32 oz. right off the bat that you can't realistically do much about. Subtract this from the low-end weight, and you end up with only 24 oz left over for structure. That's not much at all for the kinds of loads these airplanes have to take.

Yes, you can make them slightly lighter if you are very careful or if you leave out a lot of parts. But for practical construction methods you will be hard pressed to do any better.

In real life, most people have trouble

getting them below 60, and many are WAY more, into the mid 70s. Not to worry - that's not the showstopper it used to be with 4-2 break motors. These engines can pull a much heavier model than you think.

The key to this capability is the combination of a low-pitched prop spun by an engine with both a lot of breathing room at high RPM, and the ability of the pipe to apply control.

Vertical performance is simply not an issue. It will get to the top of the circle at any reasonable weight with these engines.

Turn performance amounts to avoiding wing stalls at competitive turn radii. If you have enough lift to pull the airplane around the corner tightly enough (not 5 feet, see previous columns!) that's sufficient.

Of course with lift, comes drag. The more you have to lift, the more drag you have. In corners this drag wants to slow the airplane. Slower means less lift for a given angle of attack, or alternately, more angle of attack to get the same lift. At some angle of attack, the wing stalls, and then you are done, that's the limit.

The primary performance improvement we get from our current super-power engines (compared to Foxes, ST46's, etc) is that they resist the speed drop in the corners better. This permits you to turn a given radius at a lower AoA, or if you prefer, turn a decent corner at MUCH higher wing loading than in the past, with essentially no penalty.

The old "rule of thumb" back in the good old days was that a wing loading of 12-oz/square foot was considered the absolute maximum for competitive performance. Now, it has been pretty conclusively demonstrated that you can get NATs-winning performance with upwards of 15 oz/square foot (Fancher, '95 and '00) - all because of the greatly improved effectiveness of the engine.

### Wing

Given the essentially inevitable weight range of 58-65oz, and a reasonable loading range of 12-to 15-oz/square foot you get target wing area range of something like 640 to 700 square inches. As it turns out, that's about what everyone is building - probably no coincidence.

Of course, this wing area includes the flaps. The flaps are just a section of the wing that happens to move. I know



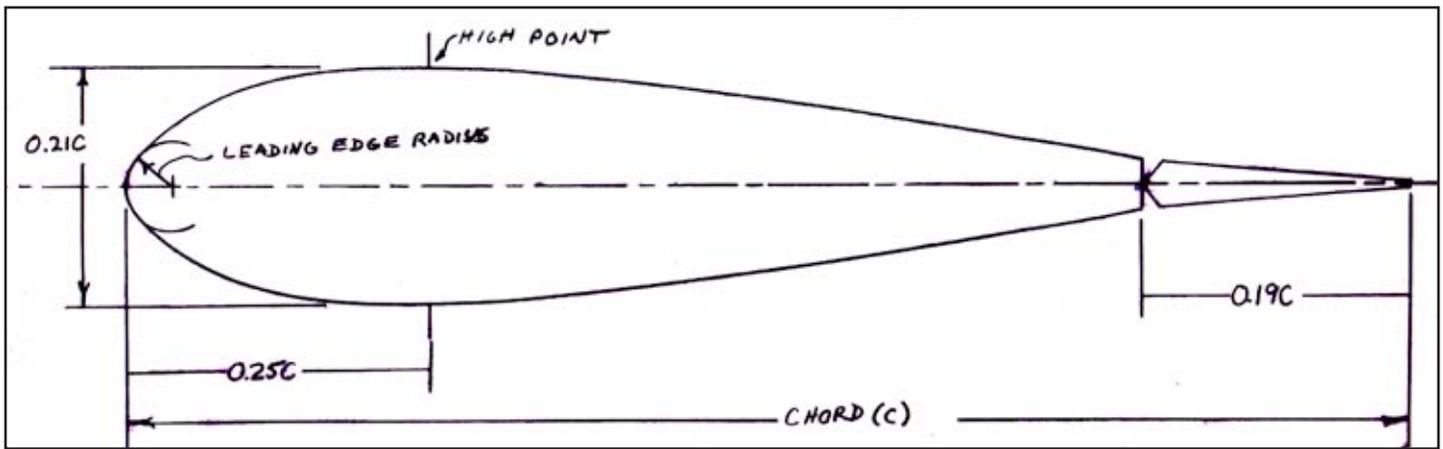


Figure 1. Basic Airfoil parameters on generic stunt airfoil

that several smart people (Al Rabe, most notably) design their airplanes and list their wing areas without the flaps. There's absolutely no problem with that as long as you are consistent, but most people use the full-scale engineering convention of including the flaps as part of the wing.

Within the range of wing areas, you can play around with various combinations of airfoils and aspect ratio.

The basic characteristics of the airfoil that are important for our purposes are the thickness the position of the high point, and the leading edge radius. See figure 1 for a reference of a typical current airfoil.

The chord (C) is the total length from leading edge to trailing edge. In the figure the high point position is 0.25C or 25%, and the thickness is 0.21C or 21%. There are varying ways of discussing the leading edge radius. It could be expressed as a fraction of the chord like the other parameters, but I think the absolute value (in inches/cm) is actually more critical, because I don't think you get the same effects as you scale the whole thing up or down. A 3/8" LE radius does about the same thing on many different size airfoils, or so I believe.

Most current airfoils have thickness ratios of around 21-24%. Mine is ~25% and I am convinced it's unnecessarily thick. Compare this to a Nobler (which seems clearly too thin) at ~16% depending on which version and where on the wing you measure.

The decision inside this range is a matter of opinion. The thicker it is the more wing loading you can tolerate, but the more power you are going to have to run in level flight (because of all the parasitic drag). Thicker also means a larger ratio of parasitic drag to induced drag - so you get less change, percent-wise, in the available

power during turns. This leads to less change in the speed than you would get if you had a very "clean" airplane. This was a trick back in the ST46/60 days when you couldn't count on nearly as much help from the engine. A lot of current designs are only slight modifications of the previous generation so some of us just probably haven't taken full advantage of the power characteristics yet.

The leading edge radius is fairly important. Too small a radius (pointy) and what will happen is that the air will try to separate from the surface suddenly because it's trying to go around what amounts to a sharp corner, and you will stall abruptly and at low angles of attack. This is one of the big issues with airplanes like the Ringmaster, the Zilches, etc.

If it's blunt it almost doesn't care what the angle of attack is, at least around the leading edge. The air "sees" the nose of the airfoil about the same way no matter what the angle of attack is. Therefore it doesn't change its characteristics much as you maneuver.

This is of course a very simplistic view of a very complex phenomenon, but it seems to be functionally useful.

I have been using roughly 1/2" LE radius at the root, and about 3/8" or slightly larger at the tip. I wouldn't go much below 3/8" in any case, but some people are down to maybe 1/4" with no apparent problems. Depending on where you put the high point it can be difficult to get a tighter radius and still have a "fair" surface.

The position of the high point has been a point of debate for years. Al's "car hood" wind tunnel experimented with the idea of making sure the shape of the aft part of the fixed portion faired well into a deflected flap, which led to a fairly

far aft high point. It seemed to work as he expected. Ted went exactly the opposite way, with some airfoils that, when I first saw them, looked like he set a beer can down on the paper and traced around it, with a very blunt LE and a far forward high point. It's my opinion that this has been a significant factor in the "linear response" feel that has characterized a lot of the West Coast/Imitation style models. The downside appears to be poor penetration when turning back into the wind, which is something that can be mitigated to some extent with engine and prop magic.

The actual shape of the airfoil, other than these parameters, has been long discussed in low tones, with mystical incantations like "NACA 632-0021", "pitching moment coefficient" and suchlike. Certainly I have wasted endless hours going over airfoil polars looking for that magical airfoil insight that will finally beat Paul, David, and Ted. For some modeling applications (like high-performance gliders) it's actually quite important to get exactly the right profile. For stunt it seems as if tracing the edge of your shoe is as good a way as any. As long as the shape is reasonably "fair" I'm sure it will work pretty well, and a lot of our construction techniques render any attempt at airfoil analysis completely pointless.

If you must have an "established" airfoil, the majority of the known good designs use an airfoil that is within a pencil line width of the appropriate NACA "00xx" series where xx is the thickness ratio. Just scale it to the right size, chop it off where the hinge line goes, and slap a flap on it.

-Brett Buck

## ELECTRIC FLIGHT



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### How To Choose The Proper Motor

**W**atts up everyone?! There have been several letters sent to me asking for help in deciding how to choose an electric motor for a particular size stunt ship. For example, what is the criteria, not necessarily the brand name, to be able to say, "This motor will work for this airplane size". Let's break it down into three classes.

1. A motor for a typical 35 size airplane like a Twister, Ares, Nobler
2. A motor suitable for a size 40 / 45 airplane.
3. What motor parameters for a size 60 / 75 stunt ship ?

We are going to talk about # 1 & 2 in this issue.

The problem facing most of us is that manufacturers are very vague in offering descriptions for our very specific needs in Stunt. Look at any catalogue or web site, and look at all the motors available, and you will find more questions than answers that pop up in your head. Calling mail order hobby shops and asking for advise does not help much, because they only know sometimes what works in R/C applications where much smaller motors, and much smaller batteries can be used for a given airplane size. They haven't any idea what our parameters are. R/C airplanes do not have to maintain 55 miles per hour for six or seven minutes

during which precision maneuvers are performed, creating variable torque loads on the power system, and requiring an airplane to travel in a spherical envelope at the end of 70 foot lines. Their throttle management is vastly different. So what do you do?

#### **In-runner or Out-Runner ?**

The first thing you can do is find out what people, like myself, and others are using. Most everyone right now is using out-runner type motors. Out-runner motors are called such because they have their outer shell / casing attached to the propeller shaft, and it is this outer casing that turns, where the magnets are attached to, and the inner guts, the armature, remains stationary. This is just the opposite of a traditional motor - called an "in-runner" where the outer shell or casing remains stationary and the armature, attached to the drive shaft, turns.

The advantages to the "Out-runner" seems to be torque. They have an incredible amount of torque because of all that mass spinning, moving and giving thrust to the prop, That inertia is helpful because while in maneuvers, when the prop loads up (because it is pulling the plane into incredible directions), the airplane wants to slow down, and so does the motor because of the sensed load, but the inertia from the outer casing of the motor, which is spinning at probably 8,000 rpm or so, helps to resist the change in speed, and so the prop bites a little longer, amperage increases with the load and tries to maintain the rpm, and before you know it, you have flown through the maneuver. That is why "out-runner" motors can swing large props using direct drive, with no geared arrangements. That means less moving parts, simpler, and quieter, more efficient performance. They also tend to run cooler because they create their own wind as the outer shell moves, helping to cool things internally. Many manufacturers have offered fans that mount to the outer casing to draw even more air through the motor, without much additional weight or load on the system. Good idea. Keeping electronics - all of it- as cool as possible is important for consistent power, reliability and longevity. The only exception to that are the batteries. They can stand a little heat, and they perform better if their temperatures are around 70 to 90 degrees.

Here in New England, when I compete in September contests, I keep my batteries in my pocket until I am ready to fly.

Batteries (and I) do not like cold. All the other things electronic do. (Computer rooms in corporate headquarters are housed in air conditioned environments held at 65 - 70 degrees)

The disadvantage of "outrunners" can be their size. Since the outer casing turns, you need to build a cavity for the motor so that nothing will come into contact with the rotating part of the motor. That sounds easy until you build the fuselage, and then notice how things can get really tight in there, unless you thought ahead.

Another disadvantage is the bearing support for the prop shaft. It is inherently weaker than an "in-runner" because of the design criteria. But still, I prefer the "outrunner" right now.

#### **What Size "Out-runner"?**

Well, what size airplane? Let's start with Classic airplanes - the Ares, and Nobler type ships. Include size 40 ships in this discussion too. Most of us would use the venerable AXI 2826/10. Others would work, if they are close to the AXI's criteria.

Helpful criteria

- 1] Weight
- 2] RPM per volt
- 3] How much constant long term amperage (Max efficiency amperage) and constant voltage can the motor comfortably take?
- 4] Diameter of the the motor (because it has to fit into the fuselage and have clearance.)

The AXI 2826/10 weighs about 6.5 ounces (181 grams) . It can take up to a 5 cell Li-Po battery which is about 18 volts nominal, and can draw 30 amps constant without damage. So, at the high end of the power output, if you were to draw 30 amps constant and used a 4 cell battery (14 volts nominal), you would be producing about 420 watts at the battery. My Nobler uses about 275 watts as measured at the battery, at level flight, and about 325 watts during maneuvers, as measured by Eagle Tree instruments, So this motor has about 100 watts of reserve power. It swings a 12/6 prop with ease, so there is no problem using this motor with any airplane needing a size 35 to 40 glow engine. If I used a 5 cell battery at 18 volts and 30 amp draw, my power at the battery would be (30 X 18) 540 watts. That



is a lot of power ! Almost twice what I am currently utilizing.

Any motor you are looking at in a catalogue or on a site, that can do the same statically, and have 100 watts or more of additional power will more than likely work.

RPM per volt is a useful tool too. This number tells you the rpm , with no load, the motor's shaft will turn as each volt is applied. For instance a 1000 rpm/V rating at 14 volts means the motor will turn at 14,000 rpm at that voltage if there is no load - nothing hooked up to the shaft. Now bear with me and try to follow this. If this number is high, say above 1000 rpm per volt, it probably would not be good for our application, because the higher the RPM/V, the less prop and hence the less load it can tolerate successfully before it starts drawing too much amperage. For instance, the AXI 2826/8 has a RPM/V of 1130. At 14 volts, it would have a no load rpm of 18,620 and it would use a lot of amperage to do it under load. You would be creating a lot more heat and using up battery power quicker trying to harness it. You would have to lower the pitch and/or diameter and that might not be desirable for you. If you look at the manufacturer's info on this motor, you will notice that it can only tolerate up to a three cell configuration Li-Poly battery- which is about 11 volts. It can tolerate up to 37 amps. But if you draw that kind of amperage, you'll need a larger amperage battery. Then at 11 volts and 30 amp draw, (which is my personal threshold for heat considerations) you are only producing 330 watts. That does not give you enough "head" room to play with. The higher the value of RPM/V is, the more apt the motor is designed for speed or helicopter application. You might include fan jets in the mix. We are looking for a lower rpm per volt for our applications, but not too low.

As another example, if you looked at the AXI 2826/12, it has a RPM/V of 760, but it has a maximum efficiency current of 25 amps, according to the manufacturer, which means it does not like to draw more than 25 amps. At 14 volts, that would limit your power to (14 X 25) 350 watts, versus the 420 watts for the 2826/10 at 30 amps, which is where that motor likes to be. The AXI 2826/10 has a RPM/V of 920 which means that under no load it will spin 920 rpm for every volt pumped into it. At 14

volts it would be 12,880rpm. Obviously, under the load of a 12/6 prop it would turn less, but it would have a lot of power behind it, at 30 amp draw.

The idea seems to be that when looking at RPM/V, it is best to stay in the middle of the road - probably in the high 700's to the 900's. When you are looking at these numbers, though, notice what the manufacturer says is the recommended highest constant current and voltage it can take. Then do the math - Volts X Amps = Watts. That figure will tell you whether you are in the ballpark or not. Classic airplanes with 500 to 630 sq. in. and up to about 65 oz., will need 350 to 400 watts static at the prop (as measured with a Wattmeter) , and that should not be at full throttle - you will want some head room so the motor can react to maneuvers and give you even more power under the motor's perceived load changes. That's what works. How do I know this ?

Apply the knowledge gained by experimentation. I found out real quick what does not work. I have about 8 motors that are really not applicable to our sport.

I bought them thinking they would work, but they do not. I did not know at the time the thoughts I just shared with you in this article. Experimentation is a good teacher, if you can afford to do it. Now, I do not purposely throw money away, but I have spent quite a bit to find out what works so I could benefit myself and those I talk to. And that is the other bit

of advise - talk to those who are successful in electric. There is no harm in imitation and duplication. We have been doing that all along, have we not ? If you wish to be at a competitive level, you will have plenty of info from us to help you through the hoop. There are a lot of choices that will work competitively. In electric, for example, props are not overly critical. They do make some difference, but not like glow. A glow engine's power curve is quite narrow, and the combination of prop, its diameter, pitch and tuning of the pipe, and with the use of varied brews of liquid fuel, one tries to control and harness and manipulate that power to suit the airframe and the weather. With electric, the power curve is much, much broader and more forgiving. This will allow for further experimentation. New products will enhance this electric power. Electric will surpass IC in precision aerobatics, mark my word. Paul Walker will be using it at the NATs this year (old news by the time you read this). Did he win? If he did not, he will, or someone will, very soon !

Next issue we'll talk about size 60 equivalents in electric, and how to choose battery sizes.

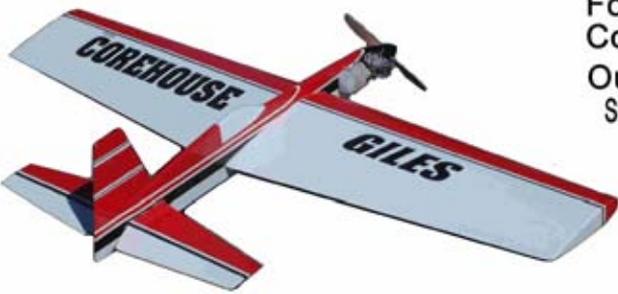
If you have any questions, E-mail them to me and I'll try to help.

Hope you all are having an excellent summer!

-Will Moore

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## FLYING THE MANEUVERS



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It is now time to fly so let's buy more fuel and get at it. The weather still has not been ideal here; three or four days in the last week have been smokey. I was at the flying field last Tuesday morning and as I look to the north about 1/2 mile, there is a big stand of trees. At 11:00 A.M. I could see them fine, at 11:05 this grayish white cloud came in and in five minutes you could not see the trees. It was smoke from southern Georgia and northern Florida 250 miles away. An RC flyer was ready to take off and at 50 feet altitude went right out of sight. At home I could barely see the house across the street.

I have been practicing the Reverse Wingover a lot this year (or is it training) to get the bottoms at 5 feet. I'm improving but still can't count on it 100%. This is one of the most important maneuvers. If it is done right - good corners - good verticals - smooth pull outs - no bumpies, you will get the judges undivided attention and all the rest of your maneuvers may be a couple of points higher.

The next maneuvers are the round loops. You say they are so easy - but are they? If you watch them being performed at a contest you may see egg shaped, pumpkin shaped, most of them over 45° at the top and they are either walking or backing up. It is best to get someone who knows the pattern

to watch you fly and look for any of these mistakes. My flying buddy had been doing his round loops with tops around 50° to 55° or higher. The bottoms and roundness were fine. Finally, in the last six months he has them where they belong. In fact he is doing most everything very well. I now love to watch him fly. He is flying advanced now, but should soon be ready to try expert.

When you start this maneuver from level flight, you should be directly downwind. If that puts the maneuver into the sun, it would be okay to bias the start a ways past downwind but never before downwind. Do not swing your arm around in circles but keep your hand with the handle out in front of you, both feet planted firmly under you. As the plane comes up, try to keep it on a smooth even circle. Your target is when the plane is in the inverted position, you are at 45°. Now some planes track really well but most do not. If this is the case, you will have to give little tweaks with the handle to keep it on the right track.

If there is not enough wind to blow the turbulence out of the circle, you should take a backward step for each loop. If you don't know what I'm talking about, just stand still and I'm sure you will find out. The previous loop turbulence will smack you and you will wonder - "what was that?" The heavier the plane, the bigger the turbulence. Usually it will just give your plane a big smack but it can knock you completely out of the air. Ask John Simpson of Cavalier fame. If you have to take three steps back, don't forget to take three forward right after you've finished the maneuver.

Things that judges are looking for: The bottoms (are they all the same) one loop on top of the other (overlay). The tops at 45° and the smoothness and roundness of them all. I've noticed at contests an occasional fourth loop - don't do that. I count my loops both inside and outside, out loud to myself. This is really helpful in the inverted flight for six laps. The judges are counting them and most of the pilots who are watching your flight are also counting them.

After the three inside loops, we go up into a half inside loop and come

down to inverted level flight. There isn't really too much to say; the level flight should be at five feet +/- for six laps without any deviation. If you have a plane that hunts, you have a problem and you better get that fixed. I have some planes that rise coming into the wind and lower going downwind. It takes a nudge down into the wind and a nudge up going downwind.

On the sixth lap of inverted flight, it is time to start the outside round loops. Start them the same as the insides, directly downwind or bias from center or to the right if needed. Again the little nudges on the handle to make them round and in the right position. A lot of the time, I can do the outsides easier than the insides. Again, if it is pretty calm with the wind, you may have to take a step back with each loop. Your plane will tell you.

I think you will have enough to practice for a while. These are not real easy maneuvers to do with perfection so you will really have to work on them.

In my stable I have two contest ready Old Time planes; a Humongous with a ST 51 and a Zilch X with a Fox 35 (a real surprise, this is an excellent flyer). I also have two Classic contest ready planes; a four-year-old Gypsy with a ST 51 and a Shark 45 with a ST 51. For PAMPA I have six contest ready planes. One I call a Super Tucker (it is 10% larger and looks like a Tucker) with a Double Star 60, a 10% bigger Gypsy with a ST 60 (still in early trim), an Impact with a ST 60, a trivial Pursuit with a PA 60, a GEO XL with a ST 60 and a Pattern Master with a ST 60.

This is really not a good thing but I'm always building a new plane. With so many you don't really get used to one. Some are like a workhorse and some are like a gazelle but you need to fly them all to get used to them.

I don't think we will see too many contests this year. The price of gas will keep us down. Those who know me know that we travel in a motor home. We tow my little Sonoma pickup truck packed with planes and it does get 9 miles to the gallon but to go anywhere, it is expensive.

That's all for now so buy some fuel and go out and practice - or is it train?

-Owen Richards



## PERSONALITIES



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Featuring:

Walter Umland  
Palm Coast, Florida



Walter and one of his prized Stiletto's

I was finally able to make it down to the King Orange International this past April. I encourage everyone to make the trip down to Starke, Florida for this wonderful event. While at King Orange I had the pleasure of meeting Walter Umland. I knew who Walter

was from his kit business but had never had the opportunity to actually meet him. Ty Marcucci, my good friend from Alabama, and one of Walter's best plans and kits technical advisors, introduced us.

Walter resides in Palm Coast, Florida. He is married and has five children. His son, Walter III, is currently serving with the Army in Iraq. Walter is especially proud of his son's service to our great nation and wishes that everyone would keep him in their prayers. He currently stays more than fully occupied with his kit business. If you have not seen one of Walter's kits you are missing a treat. The balsa in his kits is so light that it literally floats out of the box. More about the kits later.



Walter Jr. and Walter III. Walter's son is serving in the Army and is now deployed to Iraq.

Upon meeting Walter you will find someone in whom you are instantly drawn. I could have spent hours talking with him and listening to the stories about his father and the Crazy Eights Model Airplane Club. It was his father, Walter Umland Sr., who most inspired Walter's model building. Walter Sr. was a very generous and kindhearted man who helped the less than privileged kids in the neighborhood to enter the model airplane hobby. This is how Walter Jr. got started in building models. His father would have him build the kits that he gave away to the kids. Walter says, "He did not only teach me how to build beautiful models and always remember safety, but also to be honest, have respect for others, and to have a passion for and take pride in whatever I do. He stressed building friendships with people of all ages and walks of life and also showed me how to be a dedicated husband to my wife and to be a father to my

children and most of all he taught me how to be a true friend. His dedication in giving back to a hobby that gave him so much enjoyment was unmatched. Walter Sr. along with Richard Turello Jr. & Pat Carey Sr. took a few people at a local flying field and made a well-respected club on the upper east coast with over 75 active members. The club was called The New York Crazy Eights Model Airplane Club." Walter has a tribute to his father and link to a video of the Crazy Eights available on his website: [www.builtrightflyright.com](http://www.builtrightflyright.com). I encourage everyone to navigate to the site and download the video. It is lengthy, so be prepared for a long download.



Walter Umland Sr., Walter Umland Jr., and Mike Lavelle. This was Walter's first combat contest. He won 1st place.



Walter's father was a great inspiration to his life.

Walter has been modeling for over 33 years. He enjoys flying Sport Scale, Combat, O.T.S., Balloon Bust and Limbo. Precision Aerobatics was not his favorite event but he did enter it all the time. His favorite model is Les McDonald's Stiletto 660. His least

favorite model is the Nobler and the Smoothie. There are many power plants that he favors, but his favorite is the K&B 35 (75 Series).

games. And, when he started making kits and took over the Golden State Models kit line.

What Walter likes most about

The personalities are too numerous to list; however, Walter expresses a great gratitude to his customers and those who help him develop his projects.

His latest kit is Jim Tichy's Colossus. In line for production are the Jess-ter (a profile Galloping Comedian), Wayne Willey's Old Fokker, Dave Hemstrought's PT-19, Sterling's Ringmaster Imperial, Larry Scarinzi's Trident, and Bob Lampione's F-86. On the back burner is Sterling's Spitfire. To reserve one of these limited production kits go to Walters website ([www.builtrightflyright.com](http://www.builtrightflyright.com)) and place your name on the waiting list.

It is very evident that Walter loves Control Line aeromodeling. His heart is in the golden era when Ambroid and Aero Gloss were the main staple of every builder. I miss those days, but Walter has a way of making your mind and heart go back to those grass filled schoolyards where Control Line was born. Thank you Walter, for everything you do for our sport!

-Louis Rankin



Walter's favorite stunter is the Stiletto.

Most memorable moments include: Winning 1st place in senior sport scale and 2nd in profile carrier at the 1980 NATs. Being part an East Coast show team that performed 1/2A stunt shows on the ice rink at Rockefeller Plaza, the courtyard at the Chase Manhattan Plaza, and combat demos during the 7th inning stretch at pro-baseball

aeromodeling is the pleasure it brings to others, the desire to always do better with each model and the willingness to travel and fellowship with the friends he has made. Also, the ability to compete and remain friends even when we do not win.

Walter's other interests are custom painting motorcycles, racecars, boats, and jet skis. He also used to build and custom paint R/C racing boats. Constructing and maintaining websites has become a recent interest.

Well, now for the kits that Walter produces. To say that Walter produces the finest kits that I have ever seen would not be an over exaggeration. The attention to every detail that goes into producing his kits is phenomenal. The kits themselves are a work of art. When you open the box on one of his kits your first impulse is to close it up and preserve it; however, Walter means for these kits to be built. So, if you are fortunate enough to own one of his kits, don't be afraid to tear into it and start building.



Igor Panchenko's Hopak.



Reuben and Steven MacBride's Strega fleet.

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## SAFETY



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### Broken Routines, Broken Airplanes

Most of us have a routine when we arrive at the flying circle. You unload the airplane and equipment, take a place in the flying order, some will run a prime through the engine to flush the dead oil, hook up the lines and handle, check the controls, fuel up, position the airplane on the circle, start the engine, check the controls again, signal to release, and all of a sudden, you as the well disciplined, highly practiced pilot realize you have an airplane in the air with the controls connected backwards.

You may have seen this happen on the practice circle or even in a contest and thought it could never happen to you. Believe me, it can.

Over the last several years, I have lost two good performing old time stunt ships. I mentioned this to a good friend as he was practicing the day before a contest in Southern California. He is intensely competitive, a master builder who had an absolutely gorgeous new airplane of his design (since published) and a superb flyer. He commented, with a bit of contempt and disdain that he had NEVER done such a thing. The next day, I released his model for his first official flight. On release, the prop started grinding into the pavement, then he hit down control, the airplane lifted into the air, lines were slack and did a figure nine

into the pavement. In the last several months at contests here in Tucson, we have seen two experienced pilots with good performing piped ships do the same thing.

In the last two months during practice, I have twice had the pleasure to see my Gulfhawk Bearcat jump into the air immediately after release with reversed controls. I generally feed in a good amount of down for nearly a quarter lap ground run at takeoff. But if the controls are reversed, the airplane is in the air almost instantly with insufficient airspeed to maintain line tension and a totally confused, surprised and instantly disoriented pilot holding a handle that is virtually useless to control the direction of the airplane. With the experience that I previously had with the two destroyed OTS ships, I have resorted to use a thong that has enough slack such that the handle can be turned over in flight and I have practiced the procedure to do so. I take my free hand and simply turn the handle over. The process can be in the time it takes to clap your hands. In these two situations, I did not have time to think about what is up and what is down. All I could do was start stepping back from the airplane to get some line tension, do something with the handle to get the nose pointed up and flip the handle over. The impending disaster of losing a "seasoned" six-year-old model has been averted twice.

Why do these things happen? In my case, it is total carelessness. My up leadout is marked with red paint. My up line is marked on both ends with red. The up end of my handle is marked red. I "always" check the controls when I connect the lines and handle. I "always" check the controls before release of the model. But, evidently, I do not "always" go through what to me is a standard procedure that I have done hundreds if not thousands of times over the past 50 years. In my case where I lost the two OTS ships and then nearly lost the Bearcat on two other occasions, I did not follow "my normal routine" to prepare a model for flight. I was in a hurry, or there was a glare and could not clearly see the controls, or skipped something in the procedure and thought nothing of it until I had a virtually uncontrollable airplane in the air. Not only does this result in destroyed airplanes, it puts everyone in

the vicinity of that flying field in danger as the model goes slack on the lines, then can break the lines or otherwise pull free of the pilot. I have seen this happen several times and thankfully, nobody was in the way before the models crashed.

Such situations are totally preventable. Whatever your routine is, practice it and refine it so that there is absolutely no chance that you will have a model in the air with reversed controls. My advice is that you NEVER change your routine to prepare for each flight. Always check your control response. If you cannot see the controls well enough, have someone verify your control movement. (This is particularly so with designs with fins on the end of the horizontal tail and no flaps where you cannot see the elevator movement. I saw a scale contest winning B-25 destroyed because of this.)

Even with a disciplined, well-practiced routine, it may payoff big time to think of how you would react with an airplane in the air with the sudden realization that the controls are backwards. You need to do a lot of things very fast. Step back to get/maintain line tension because the airplane is not going fast enough to stay tight on the lines by itself. If you can react without having to think that the controls are opposite from what you are familiar, you have a rare talent. Otherwise, move the handle in some way until you see that the nose is pointed somewhere in the up direction. Then flip the handle over. Then look to see where the airplane is going. The normal reaction is to instantly feed in full up and then hang on hoping that a crash will be avoided. But, sometimes the best control would be to give some or full down control for an inverted recovery. And all of this needs to be done in not more than about one second.

But the best procedure is to check and double check your controls. Never signal to release the model unless you are absolutely certain that the controls are properly connected. Establish your routine and do not deviate. If for some reason there is a change to your normal routine, make sure you double check your controls before you start to fly.

Something to think about.

-Keith Trostle

## THE LIGHTER SIDE



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Like most modelers, my plan collection is just marginally smaller than the Library of Congress. If I used one every six months the supply would end somewhere around the middle of 2120, at which time I would be 180 years old and which I have been led to believe is unlikely to occur. Thus I recently began thinning the herd—kits, engines, and obsolete accessories, some of which last saw daylight before Al Gore invented the Internet. There is nothing unique about this. Discussions with others confirm the notion that we're a bunch of packrats. Obsessed with collecting additional items despite having more than we can use now, we have so much stuff that often we can't even find what we're looking for, yet we

continue to troll the 'Bay and other sites as if we had access to Bill Gates' checkbook:

"Hey, a Belchfire .69! Four hours to go...only \$285."

"(But do you really need it?)"

"Well, no, but . . ."

"(Then don't bid on it, bucko.)"

"Aw, what the heck, I'll go three hundred."

"(Isn't that the cash you'd set aside for Bambi's birthday gift?)"

"Yeah, well, I'll think of something."

"(Uh...)"

"Shut up."

Of course we have the winning bid. Couple of weeks later the prized Belchfire arrives. That's when we discover the scored piston and shot bearings suggesting it had been repeatedly run wide open on Jim-Bob's Bargain RC fuel. The seller pleads innocence, referring us to the usual disclaimer: "got it from an estate sale and don't know nuthin' 'bout these things". Fact is, we are now (Sadly-Out-of-Luck), not to mention having to endure icy stares from ol' Bambi when she unwraps her four-dollar box of stale bon-bons from Walgreens.

Then there's the magazine collection: moldy old issues of AT, FM and MAN-before-they-ruined-it. Need to know who won Indoor Ornithopter at the '52 NATs? No problem; its in there somewhere—along with everything you always wanted to know about the Bubbatown Balsa Busters. The downside is, our valuable collection occupies so much

space that Bambi has no room to display her prized collection of 18th Century teacups, perhaps helping explain why she's become such a barrel of laughs.

Since my apartment is about the size of a Honda Civic it was time to reduce the pile. Some of the items were older than Keith's Bearcat, so I chose to dispose of them rather than have them end up in a dumpster someday when they finally haul me off to the Sunshine Rest Home. Need any 9-6 Tornado Plastikotes? How 'bout a cylinder and gasket set for a Greenhead .201? See what I mean? Who in his right mind would tote that junk around year-after-year with no intention of ever using it? Perhaps you'll agree, '86' some of your own stuff, then stop bidding on overpriced castoffs from others' dungeons. You'll then be more organized, pick up some pocket change and might even see Bambi smile again.

(By the way, there's a 1-3/4 Froom needlenose on the 'Bay at \$76.45 with six hours to go.)

-Uncle Mikey

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## THE TRAILING EDGE



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It's no secret that some OTS maneuver descriptions have more twists than a Sue Grafton novel. Although detailed rules exist for design parameters, the '51-'52 maneuver descriptions have not been widely published. As a result we often see Overhead Eights being flown CLPA style—which in Old Time is an attempted maneuver. We have seen (and given) 'attempted maneuver' scores when Overheads were entered following a vertical climb despite having the correct entry/exit discussed at the Pilots' Meeting. Correct entry/exit for those is at not less than 30 degrees, with the group of three being flown 'lazy eight' style—a misnomer since these are actually two concentric loops, half an Inside being flown first. Here's the tickler: if flown PA-style the flyer remains eligible for pattern points, provided that all else is done in the correct sequence and in not more than eight minutes since, unlike PA and Classic, the Old Time rules read 'ATTEMPTED or completed' (emphasis mine). The point here is that OTS needs a clearly defined set of maneuver descriptions. Any volunteers?

On to Classic: Perhaps you've seen those 'ad infinitum' exchanges about adding a progressive, or rolling, cutoff date for eligible designs. Like most debates among any group of mostly Type-A personalities there appears to

be no neutral zone here—the request being either praised or panned, with compelling (and, so far, refreshingly polite) opinions put forth by proponents and detractors alike. Yes, I have an opinion on this one. Here it is:

"Whatever."

Another suggestion concerned something called a Super '70s event for post-Classic designs. While we probably don't need another event crowding the schedule, there are those who think it's a marvelous idea. For what it's worth, I have an opinion on this one too:

"Whatever."

There you have it. Why the succinct, possibly sarcastic, replies? Because with each passing day I find myself less inclined to comment on What's-Hot-and-What's-Not or to participate in endless debates on such issues. The fact of the matter is it would be like having someone who paints pictures of cars trying to influence NASCAR rules.

In the mid '60s there was a Stunt flyer better known in his hometown area as a bass fishing expert—specifically, something named jig fishing, which apparently involves dropping some sort of contraption over the side of a boat then waiting for a bunch of fish to attack it. At any rate, because the guy was something of a whiz at this, his local paper published a three-column feature article about it, including his smiling mug shot. We of course knew him better as the designer and flyer of various control line models. His name? George M. Aldrich. (Thanks to Dale Kirn for sending the clipping from the 'San Antonio News', February 27, 1964) for me to review.

Oklahoma's Jim Shamblin tells about the spark-ignition Old Timers seen in of the photos: "In front, built from plans in Air Trails, solid pine body shaped about like a slingshot; balsa wing and tail; powered by my first engine, a Vivell 35. It barely had enough power to fly, and when the engine quit it literally

fell to the ground. I don't remember the name of the design. I won Junior Class C Speed, mostly because I was the only junior to get his engine to start and fly the required number of laps. As I remember, my speed was in the neighborhood of 37 mph! To the right, a kit called the PDQ, powered by a Merlin, a pretty engine without much power. Left, my first self-design, powered by my first Super Cyclone. The body was framed from 1/8 square sticks and planked with 1/16 sheet. The engine was mounted on aluminum mounts bolted to the firewall. Wing was built-up and sheeted—a Clark Y airfoil (nobody in Shreveport had even thought of flying upside-down then), 6-inch chord and 36-inch span. It was my first stunt plane and would even do consecutive loops!"

Looks like we have another special annual meet on our hands...the "Ringmaster Roundup" in Houston. The inaugural event, held at Scobee Field and hosted by Dee Rice and David Gresens, was held April 21-22 and was rather successful with 19 entries, including noted Combat flyer Richard Stubblefield. This gathering is meant to honor the original S-1 Ringmaster and its designer, the late Matt Kania, and is intended to be more for fun than for trophy hunting (though some of those guys regularly score more than 500 points with one in P.A. events). Full details may appear elsewhere this issue (?) and you can also see more on this phenomenon at [www.brotherhoodofthering.com](http://www.brotherhoodofthering.com).



Shreveport, LA, c.1946: 14-year-old Jim Shamblin (L) and dad with their fleet. Now residing in Stillwater, OK, Jim included information on the models. See text for details.



Tucson's Randy Cuberly ('Cowboystunt1' on Stuka) with Scarinzi-designed Blue Angel at VSC-18, 2005.



Another view from VSC-18: Dan Mrozak ('Dankar' on Stuka's Classifieds) with his All American Senior



This one goes back a few years. Keith Trostle with one of two Spirit of St. Louis OTS entries that showed up at the VSC. The other was Jim Lee's. Each performed the pattern rather well.

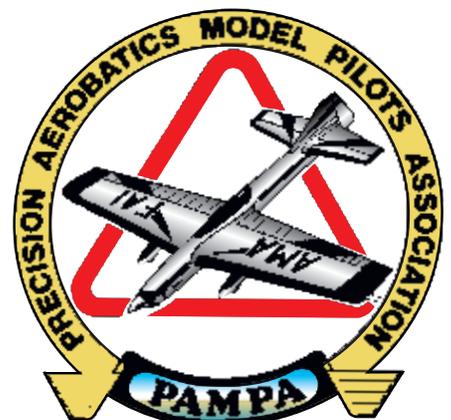


My first 'First', June '50: Audubon, NJ kids' shelf model contest hosted by '48 AMA Prez Everett Angus. Prizes included a flight in his Stinson to a AAA meet at Millville and my first exposure to models that actually flew. Things haven't been quite the same since.

Short Lines: Know who won Junior CL Scale at the '59 NATs? His entry was a Fokker F-27 twin, and today he's been known to fool around a bit with full-sized air and spacecraft. Name? Burt Rutan. Yes, THE Burt Rutan ... Ever notice how those who constantly complain about judging are rarely, if ever, seen holding a clipboard? And that's all I have to say about that ... Your photos are welcome. They will be safely returned, or you can send them as e-mail attachments at a minimum of 500Kb ... Now it's time to load the car and head out for upper NY state to see the family, then double back to Muncie for the NATs, a fascinating round-trip of nearly 5,000 miles at some outrageous price per gallon. If all goes according to plan (yeah, right) I'll be in Room 106 at the Signature Inn starting Saturday evening, July 7, so if you have anything you'd like to see here next issue bring it along. Until then, remember to check your line connections before signaling

for release.

-Uncle Mikey



## WHY DO I FLY STUNT?



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OK, I don't just fly stunt, neither do most of you, I just like stunt the best. For years, control line flying to me was just a bunch of guys (and the occasional gal) getting together and sport flying. Some of us had combat ships, some had profiles, and then there were the always to be admired stunt ships. We would see a racer now and then, and a scale plane as often. For some crazy reason, periodically we would all go out and get the same planes at the same time. Fly them to death, and always come back to the sport plane that we really liked, whatever plane that was.

For me it was a Ringmaster with a McCoy Redhead .35. It just felt right to be flying one of those, and I owned a bunch of them (I still have one). Stunt flying was more like "trying" to do a stunt, than actually doing any particular one. After "trying" a wingover, and getting it more or less correct, then came the loop, then lazy eights, then flying inverted, then outside loops. I never realized that just trying the maneuver was the same as doing one. In fact, I never even thought far enough in advance on any particular flight to know what the on-deck maneuver was going to be. Flying was just fun, and avoiding the ground was one of the more important goals.

While flying the Ringmaster several years ago, I got into the position of having so much fun that I forgot how long I had been flying. It happens quite a bit, if you enjoy flying. The McCoy gave no warning. It usually did, but this time I ended up inverted and out of gas, altitude, airspeed, and ideas all at once. McCoy's have one of those "springy" needle valves to help protect it during just such an occasion, but I still didn't want to lay it down inverted and take a chance on breaking it. I milked the glide, whipped to the best of my ability (which was and still is marginal), and chose a nice grassy tuft to aim for. The Ringmaster settled in nicely and stopped on the clump of grass that I had chosen, wheels up, and needle valve down, in the grass.

Coming out of the crowd in the shade on the outside of the circle was a fellow that I recognized as Leroy Black, one of the better Stunt Pilots in our club. The plane had landed on the other side of the circle, and Leroy said, "Here, let me have the handle and you get the plane. You can check that needle valve before you carry it in." It was pretty nice of him to help, since we were no more than conversational acquaintances at the time. "I know how to fix it so that you never have to guess when you're going to run out of gas again." He said, as I gave him the handle. "Me too" I said, "time the flights". "Nope" he yelled as I sauntered off to pick up the plane, "it's easier than that".

What the heck is he talking about? I thought, as I walked the plane to the pits. As he returned to his seat, he walked up to me and simply said "Fly Stunt". Those of you who are wise about the art of salesmanship know that if you can get the prospective buyer to ask a question, they are nearly hooked. "How is flying stunt going to let me know when I'll run out of gas?" At that he knew he had me, and his smile said so. "If you fly the same maneuvers, in the same order, every time, you will know how long you have left, not only every flight, but after every maneuver." I had never

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considered it. Heck, I was a sport flyer, not a vaulted and revered Stunt Pilot. But the pure logic of the situation hit home, and I "tried" it.

I got through the Beginner stunt pattern fairly easily, even though I had never done a "Square Loop" in my life..... on purpose. I counted the laps to flame-out and the same thing happened on the next flight, and the next. "Now" said Leroy, "you need to enter a contest to get the feel of competition". For the next year, I flew in three contests as a beginner, and placed in all of them, in spite of the wandering eights and unsteady square loops.

Leroy, and Mark Smith, another Stunt Pilot and good friend, coached me and lent capable airplanes to me so that I could move to the Intermediate, and finally the Advance Pattern, where I can consistently nestle in just off the bottom in the lower third points-

wise. I can't remember why I never tried stunt before. The consistency of the event, the unpredictability of each flight, each maneuver, and each pattern, is a challenge that can never be mastered. It is, all the same, new and exciting each time I fly. Now, each flight has a reason and a goal that is just as much fun as before, only stronger.

Even the crashes don't hurt as much as they used to. They still smart some, but I usually know what I did wrong. Now, building has a direction, my flying has a direction and the hobby has new meaning because of it. It's probably because of the goal setting vs. freelancing situation.

Years later I went back, cleaned up the Ringmaster, and got it ready for the weekend. It started the same, and looked the same in the air, but it did not feel the same. It was heavy, over responsive, didn't corner well,

and all-in-all was not the same plane that I loved.

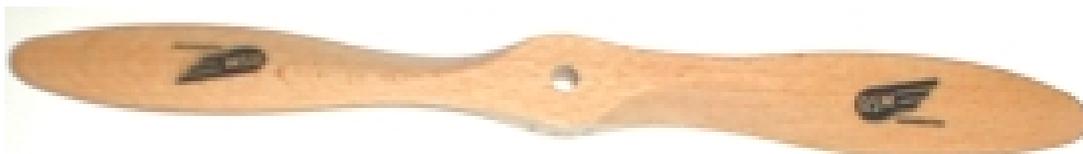
The problem was not with the plane, it was with me. I had learned to fly, no matter what I thought that I was doing before. Now, I knew the difference between flying and aiming. It was with some mixed emotions that I cleaned up the Ringmaster, just before I put her on the wall more or less for good. It is sort of like when you catch a great fish, win the fight then let them go, except for the smell, and of course I can still fly her any time I want. I have the good memories to live with, and as long as I don't make new bad memories over the old ones, they will be as strong as they ever were. That's why the Ringmaster hangs on the wall. The memories are stronger at a glance, than in flight, and that's why I fly stunt.

-Ken Gulliford

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## FEATURES



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### Boy 'o Boy! She's a perfect 40. What in the world was George thinking?

The movie "Ten" with Bo Derek was aptly named ... Ms. Derek was supposed to, and pretty much did, represent the epitome of feminine beauty. A perfect "Ten".

We are "hatched out of the egg" with a "decimal rating system" etched in our DNA. From elementary school forward we know that a score from 90 to 100 is an A (excellent), 80 to 90 a B (good), 70 to 80 is a C (fair), 60 to 70 a D (poor), and below 60 an F (failing).

In my opinion, our C/L stunt 10 to 40 scoring system provides a recipe for inconsistency. A decimal system provides a natural and innate tool with which to work.

Visualize a set of maneuvers; say a set of square eights. It's not that difficult to place a general score on the figures as A, B, C, or D. Excellent, Good, Fair, Poor ..... With a moment or two of more thought and reflection at what was seen, the score can even be refined to the difference between say a B+ or a B. Even the difference between an A- and a B+ can be determined with a fair level of accuracy by a prudent stunt judge. But try to confidently make a numerical assessment of our stunt 10-40 scale, what's a B+ ?, 26, 28,

30?

Remember, the judge only has 8 to 10 seconds to view a figure and about the same amount of time after the completion of the figure to decide on and record a score before the next maneuver starts. We discuss the descriptions of figures, we pick apart the wording in the rulebook, but in reality there are an infinite number of ways to fly a figure. The problem is not that judges don't know the "rules"; the problem is whether the judge can rate a set of figures with the right number. The judge has to look at the overall figure and decide on some rating number. It's far better, if under the tight time constraint of an official flight, that the judge has a numbering system that is instinctive and not an artificial construction.

I have always contended that our judging pool would be infinitely larger and more consistent if we had a decimal scoring system. We could recruit "off the street" and qualify judges very easily using this system. The 10-40 system doesn't make much sense to someone who isn't real close to the event. Forming a judging corps is OK, but it doesn't address the real problem... That the 10-40 system just doesn't mean the same thing to all judges, and doesn't work under pressure.

Contest directors fear that their stunt judges may score intermediate flyers with scores of equal magnitude to advanced or expert flyers, and the head judge may remind his cohorts that an intermediate score should be about "such". When flyers hear about words like this there is an outcry that the judges are being "forced" to score a given level of flyer within a "bracket". Not so. The 10-40 stunt numbering system just leads to inconsistency and without care can result in very inaccurate scoring. Oh sure, "it doesn't matter what a judge scores as long as he is consistent". Bingo ... the 10-40 system leads to very inconsistent results over the long run. A decimal score is much more repeatable and consistent.

"Ballooning" of scores at the end of the day, is an effect, I think, of our non-intuitive numbering system. When judges get tired, the scoring system

should be "instinctive" and require as little thought process as possible. The decimal system is instinctive in relating a subjective judgment into a numerical score. Ms. Derek may not have been a true "ten" to everyone, but no one is going to score her lower than a "9.5".

What to do?

Long term ... we should move to the FAI system. That would unify stunt on a world platform and at the same time "fix" the untenable 10-40 system. We're almost there, let's take the final step.

Short term ..... What I've done as a judge for a long time is to carry a "cheat sheet" with me for judging. It's non-linear in relating A's, B's, C's to the 10-40 system. I look at the maneuver, make a decimal (0-10) assessment of the score and then look at the "cheat sheet - translator" to provide the required 10-40 assessment. Below is a copy of the translator.

-Frank Williams

|      |     |    |
|------|-----|----|
| A+++ | 10  | 40 |
| A++  | 10- | 37 |
| A+   | 9+  | 35 |
| A    | 9   | 33 |
| A-   | 9-  | 31 |
| B+   | 8+  | 29 |
| B    | 8   | 27 |
| B-   | 8-  | 26 |
| C+   | 7+  | 24 |
| C    | 7   | 22 |
| C-   | 7-  | 21 |
| D+   | 6+  | 19 |
| D    | 6   | 17 |
| D-   | 6-  | 15 |
| F+   | 5+  | 13 |
| F    | 5   | 11 |
| F-   | 5-  | 10 |

## Control Line Model Design Analysis by T. Michael Jennings

There are liars, flyers, builders and designers in our control line Precision Aerobatic community. There is room for each type of pilot. Likely, the first group is the largest with the last group being the smallest. Most of us do not have the background or temperament to design effective model aircraft. After reading and studying this article, you will be able to evaluate your aircraft for two design parameters.

Ted Fancher published three articles concerning the 'design of control line model aircraft.' The first article was the Model Aviation September 1979 issue titled Designing the Imitation; the second article was the Model Aviation December 1981 issue titled Excitation; and the third article was the Model Aviation May 1985 issue titled Control Line Aerobatics. These three articles provided information about calculating the effectiveness of control line aircraft. Additionally the articles describe and define key terms such as Mean Aerodynamic Chord (MAC), Center of Gravity (CG), Center of Lift (C/L), and Aspect Ratio (AR). The gist of Ted's articles provides the basis for a mathematical model to evaluate the effectiveness of a control line model. Two numbers provide an overall "effective analysis" for the 1) Control, and 2) Stability of a model aircraft.

Ted completes a mathematical analysis during the design phase. Because it is a mathematical analysis of control and stability, Ted's analysis does not guarantee National Championship performance. Designs with high control and stability numbers on the drawing board has a higher chance of being in the winners circle rather than a design that "looks about right."

Ted pointed out, in 1985, there was little "user friendly software" available to make the mathematical calculations described in his article. Additionally, most of us did not "live next door to a Werwage or Gieseke." Ted was correct then. Today more people can handle simple mathematical equations in software packages.

Ted's three articles are the basis of this article. This article is not a repeat

of Ted's article. This article evaluates several control line model designs using Ted's control and stability analysis.

Ted's 1985 column provided a sketch titled IMPORTANT STUNT STUFF (ILLUSTRATED) that locates critical control line aerodynamics parameters, such as CG, C/L, and MAC.

Ted's article made two assumptions. Both of the assumptions are inferred and not specifically stated. The first assumption was the higher the Control Parameter, the better the design. The second assumption was the higher the Stability Parameter, the better the design. When comparing two designs, the aircraft with the higher control and stability numbers should make a better Precision Aerobatic flying aircraft.

In May 1983, after reading Ted's article, I made a wall chart to capture the data described in Ted's articles. This required developing the equations, measuring the aerodynamic components, and making manual calculation of the aerodynamic parameters. I calculated the parameters for several aircraft and entered them on the wall chart. Then I took a leave of absence from control line flying for 15-20 years due to work and family responsibilities.

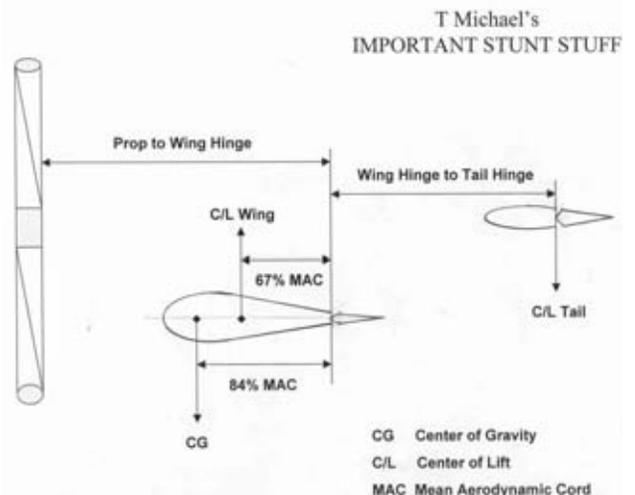
I restarted my control line activities last year. I made three decisions about flying: 1) Build semi-scale or standoff scale aircraft; 2) Use 0.40 cubic inch engine displacement; and 3) Use effective mufflers. This will keep the aircraft smaller and still be able to use 0.015-inch control lines. This is why the aircraft evaluated herein is 40 or 46 sized aircraft, which is my area of interest. Although, these design principles apply to the larger current size control line models.

Meanwhile, the wall chart with the data turned brown and became unreadable. Also, my proficiency in using Microsoft Excel (spreadsheet) software improved. It was a no-brainer when re-developing the parameters; let the computer do the hard work.

Develop the mathematical equations; input the equations into the Excel software to make one Excel template and use it for the different control line models.

The difficult work in developing the Excel spreadsheet is to develop the necessary mathematical equations to implement Ted's analysis. In developing and clarifying the equations, a sketch is necessary to compliment the mathematical equations. Included was the opportunity to simplify the measuring of the critical aerodynamics components. Its title is "T MICHAEL'S IMPORTANT STUNT STUFF." Important to Note: T MICHAEL'S sketch describes the same aerodynamics parameters as in TED'S sketch in a more equation friendly manner.

There are two assumption made



This sketch links the Aerodynamic Parameters to the Microsoft Excel spreadsheet. It also allows simplification of the mathematical equations for the software.

to simplify the calculations. The first is that is the C/L for the tail assembly is at the hinge line of the horizontal stabilizer and elevator. The second is the wing measurements comprise the MAC and the flap is not included in determining the MAC.

The purpose of this article is to compare different control line model designs. Because of this comparison, the two assumptions apply to every model design and will have minimal affect on the comparison of the designs.

When comparing several different designs, it is an advantage to select one design as the standard. For our purpose, the standard selected is the Top Flite Green Box Nobler control line



model.

Study the Top Flite Green Box Nobler Excel spreadsheet for; 1) the measured aerodynamics components (italics letters), 2) the mathematical equations which determine the aerodynamic parameters, 3) the Nobler dimensions and analysis. Each control line model design is on one Excel spreadsheet. This article includes only the Nobler spreadsheet.

Now for the comparison analysis of several control line models aircraft. Using the Excel spreadsheet data for

each design. Why are these thirteen control line model aircraft selected? The simple reason is that twelve of these are the plans the author purchased over the years and one has its information published in Model Aviation.

This type of control line Model

| Control Line Model Comparison |                    |                   |                     |
|-------------------------------|--------------------|-------------------|---------------------|
| Model Name                    | Model Designer     | Control Parameter | Stability Parameter |
| 1. Excitation                 | Ted Fancher        | 3680.1            | 0.509               |
| 2. Stiletto                   | Les Mc Donald      | 3119.8            | 0.650               |
| 3. Heinkel HE-100             | Jack Sheeks        | 2994.4            | 0.570               |
| 4. Illegal 1*                 | T Michael Jennings | 2966.0            | 0.415               |
| 5. Genesis 1                  | Bob Hunt           | 2467.4            | 0.586               |
| 6. Super Chipmunk             | Mike Stott         | 2245.7            | 0.508               |
| 7. Nobler                     | George Aldrich     | 2080.4            | 0.497               |
| 8. Mustang P-51               | Al Meyers          | 2075.1            | 0.500               |
| 9. Thunderbolt P-47           | Charles Parrot     | 1897.3            | 0.432               |
| 10. Twister                   | Ted Fancher        | 1734.9            | 0.447               |
| 11. Mustang-SIG               | Mike Gretz         | 1600.9            | 0.500               |
| 12. Twister                   | Mike Gretz         | 1494.6            | 0.405               |
| 13. Magician**                | J. Silhavy         | 1303.1            | 0.336               |

Norm Whittle's Eagle design with Ted Fancher's Imitation wing.  
Non-Flapped Design

|                                                   |                                                                               |                                 |          |
|---------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------|----------|
| <b>Aircraft Name:</b>                             | Nobler                                                                        | Date:                           | 01/28/05 |
| <b>Designer:</b>                                  | George Aldrich                                                                |                                 |          |
| <b>Wing Measurements</b>                          |                                                                               | <b>Tail Measurements</b>        |          |
| <i>Root Cord Length</i>                           | 10.1                                                                          | <i>Root Cord Length</i>         | 5.9      |
| <i>Tip Cord Length</i>                            | 8.1                                                                           | <i>Tip Cord Length</i>          | 4.3      |
| <i>Root Thickness</i>                             | 2.0                                                                           |                                 |          |
| <i>Tip Thickness</i>                              | 1.6                                                                           |                                 |          |
| <i>Wing Span</i>                                  | 50.5                                                                          | <i>Tail Span</i>                | 20.0     |
| <i>In-Board Span</i>                              | 25.9                                                                          |                                 |          |
| <i>Out-Board Span</i>                             | 24.6                                                                          |                                 |          |
| <b>Flap Measurements</b>                          |                                                                               | <b>Fuselage Measurements</b>    |          |
| <i>Root Cord Length</i>                           | 2.9                                                                           | <i>Wing Hinge to Tail Hinge</i> | 14.3     |
| <i>Tip Cord Length</i>                            | 1.0                                                                           | <i>Prop to Wing Hinge</i>       | 18.7     |
| <i>In-Board Span</i>                              | 22.5                                                                          |                                 |          |
| <i>Out-Board Span</i>                             | 21.4                                                                          |                                 |          |
| <b>Wing Analysis</b>                              |                                                                               |                                 |          |
| Asymmetry                                         | In-Board Span/Out-Board Span                                                  |                                 | 105%     |
| Taper Ratio                                       | Tip Cord Length/Root Cord Length                                              |                                 | 0.8      |
| Mean Cord                                         | 0.5 x (Tip Cord Length+Root Cord Length)                                      |                                 | 9.1      |
| Wing Area                                         | Mean Cord x Wing Span                                                         |                                 | 459.6    |
| Wing Volume                                       | Mean Cord x Mean Cord x Wing Span                                             |                                 | 4181.9   |
| Aspect Ratio                                      | Wing Span/Mean Cord                                                           |                                 | 5.5      |
| Center of Lift (C/L to Wing Hinge)                | 0.67 x Mean Cord                                                              |                                 | 6.1      |
| Center of Gravity (CG to Wing Hinge)              | 0.84 x Mean Cord                                                              |                                 | 7.6      |
| <b>Flap Analysis</b>                              |                                                                               |                                 |          |
| Flap Area                                         | 0.5 x (Root Cord Length + Tip Cord Length) x (In-Board Span + Out-Board Span) |                                 | 85.6     |
| Flap Moment                                       | 0.50 x Mean Cord                                                              |                                 | 4.6      |
| Flap Volume                                       | Flap Area/Wing Area                                                           |                                 | 0.2      |
| Flap Span                                         | (In-Board Span + Out-Board Span)                                              |                                 | 43.9     |
| Flap Effectiveness                                | 0.5 x Flap Area/Mean Cord x Wing Span                                         |                                 | 237.5    |
| <b>Tail Analysis</b>                              |                                                                               |                                 |          |
| Tail Area                                         | 0.5 x (Root Cord Length + Tip Cord Length) x Tail Span                        |                                 | 102.0    |
| Tail Volume                                       | Tail Area/Wing Area                                                           |                                 | 0.22     |
| Tail Aspect Ratio                                 | Tail Span/(Root Cord length + Tip Cord Length)                                |                                 | 2.0      |
| Tail Moment                                       | (0.67 x Mean Cord) + (Wing Hinge to Tail Hinge)                               |                                 | 20.4     |
| <b>Aircraft Effectiveness</b>                     |                                                                               |                                 |          |
| Control                                           | (Tail Moment x Tail Area) - (Flap Moment x Flap Area)/Wing Volume             |                                 | 2080.4   |
| Stability                                         | (Tail Moment x Tail Area)/Wing Volume                                         |                                 | 0.497    |
| <b>Assumptions:</b>                               |                                                                               |                                 |          |
| 1. Mean Cord equals Mean Geometric Cord           |                                                                               |                                 |          |
| 2. Tail Center of Lift is at Tail Hinge.          |                                                                               |                                 |          |
| 3. Tail Stabilizer Area equals Tail Elevator Area |                                                                               |                                 |          |
| <b>As Built:</b>                                  |                                                                               |                                 |          |
| weight (onces)                                    | 36.0                                                                          |                                 |          |

So, what does the technical analysis tell the author?

Remember, my interests are in building 0.40 cubic inch size aircraft and semi or standoff scale aircraft. The answer immediately jumps out of the technical analysis. In order to be more competitive at a Precision Aeronautic contest, the Heinkel HE-100 designed by Jack Sheeks is the standoff scale control line aircraft to build.

Note: There are no dates on the Heinkel HE-100 drawing. The plans are in the Academy of Model Aeronautics (AMA) Plans Service library on the Internet. The plans have the AMA #286 and indicate the source is in the Model Aviation Jan 1980 issue. Included at the AMA website is a photo of Jack and the Heinkel. The present cost of the Heinkel HE-100 plan from AMA is \$14.

Surprisingly this technical analysis indicates the SIG Super Chipmunk is a formidable aircraft to use in Precision Aerobatic flying. The SIG Super Chipmunk placed just ahead of the Top Flite Green Box Nobler design.

It may not be surprising, the SIG Manufacturing Co. catalogue (Catalog 43, circa 1983) states the Super Chipmunk was "1ST CL PRECISION AEROBATICS 1976, 1977, 1978, 1979 AND 1980 NATIONAL by Dave Fitzgerald." The SIG catalogue (Catalog 52, circa 1990) states the Super Chipmunk was "1ST Sr. CL Stunt in 1983, 1984, & 1985 NATs - Jim McCellen, and 1st Sr. CL Precision Aerobatics 1976, 1977, 1978, 1979 and 1980 NATs - Dave Fitzgerald." It is uncertain what these bragging rights mean, but the SIG Super Chipmunk has a pedigree of a National Competitor.

I can attest that the Sig Super

thirteen model designs, the control line Model Comparison table displays the control and stability parameters for

Comparison table is dependent on the highest to lowest aerodynamic Control Parameter.

Chipmunk was an excellent flying model with an OS Max 35 engine.

In a future design, one could use the Jack Sheek's Heinkel HE-100 wing



The author purchased this SIG Super Chipmunk kit in September of 1981. The kit was completed in May 1982. The engine was an OS Max 35. This design has a 1.5-inch greater inboard wingspan than the outboard wingspan (106% Wing Asymmetry.)

measurements, flaps measurements, tail measurements, and fuselage measurements and then wrap Al Meyers P-51 Mustang (40 size aircraft) fuselage around them. This design should give a good start to a successful design.

This technical analysis begs to answer another question. If this technical analysis is so good, why have we not seen Jack Sheek's Heinkel HE-100 in several winner's circles at the national championships? Maybe Jack or others did not fly the Heinkel at the national championships. Maybe Jack does not know the technical worth of his design. Maybe this is a sleeper design that the control line community has overlooked.

There is a need to build a Jack Sheek's Heinkel HE-100 to determine its flying capability.

On another future design, one could use the Ted Fancher's excitation wing measurements, flaps measurements, tail measurements, and fuselage measurements and wrap Al Meyers P-51 Mustang fuselage around them. This design should give an excellent start to a successful design.

If one is gonna steal a design, don't steal a lousy design.

How can this (technical analysis) comparison help you? You are not

a designer. Generally, it takes 4 to 6 months to build a control line model aircraft. It takes one evening to develop an Excel spreadsheet template with the formulas provided herein. Make the Excel spreadsheet template once and use it on all your control line model aircraft.

The technical analysis requires 16 measurements for a particular design. This is a 15-minute measuring project to evaluate an existing control line design that you might be considering to build. Now you have the ability to compare your particular aircraft design against

one of the designs in the table. Then you might say, "Is it worth spending 15 minute on a measuring project to prevent spending 4-6 month building a dud?" That is your call.

It needs to be pointed out that I am not an Aeronautical Engineer nor have I completed any aeronautical engineering courses. Although, I once stayed at a Holiday Inn.

Therefore, my opinions are just about as good as your opinions in designing control line model aircraft.

My thanks go to Cleone Larson, Salt Lake City, UT. for providing grammar and wordsmith advice for this article.

-T. Michael Jennings

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## Eagle 780 by Carl Shoup



Carl holding the Puma at his first Stunt Contest.

This is the story of me Carl Shoup and how I became the famous or infamous Belfry Bound Flyer. When I was a young shaver, I started getting into mischief, so my dad decided that I should have something to do to keep me out of trouble. He and I would spend everyday after school, practicing flying and in the evenings we would spend building planes. My dad and I spent many an afternoon at the local park practicing.

I flew model airplanes from 1967-1975. I flew combat, carrier, a little scale. In those days I didn't think I had the skill to build a real stunt airplane. I gave up the flying and building of airplanes for racing motorcycles and shooting sports, until I got hurt enough that I couldn't race anymore. Then I returned to building and flying. But by now I was flying radio control airplanes.

I flew radio control from 1978-1984, when I had my thumb ripped off by an



Cobra 7 before the crash.

industrial accident. I quit flying again because you need both thumbs to fly radio control. I then got a 4 wheeler, a shoe (toe made into a thumb), a wife, and another shotgun. I didn't fly again until the mid 90's when my dad gave me an R/C plane. I joined the local R/C club and found a couple members that were interested in control line. So I dug out an old airplane and the three of us started flying control line.



Cobra 7 after the crash and a new paint job.

We three were at the local hobby shop and the owner told us of another guy, Bob Svoboda who only flew control line stunt airplanes. Together the four of us started our own club. Bob sold me an airplane that needed to be refinished for \$20. He called it the Puma. I flew my first PA contest in Denver in 1995 with that airplane. In 1996 I had another one of Bob's planes, the Cobra 7, that flew really well until I crashed it. With the rebuild and new paint job it came out too heavy. However, at the Denver contest in 1996, I received no appearance points, and I still got second place in Intermediate Class.

A few weeks later I went to Salt Lake City for their annual contest, and met Gordan Delaney. He forced me to stay with him and his lovely wife Sandy. The first night we talked until 2 or 3 in the morning about airplanes, and by the way this was the first time I met Gordan. When the contest was over, Gordan made me fly his Pathfinder 51. It was a large airplane with 750 square inches. I was very impressed at the ease in which this airplane flew. It would turn on a dime and give you eleven cents change.

When I got home, Bob and I had started two airplanes that he designed. He had designed it around 650 square inches, but after flying the Pathfinder 51 I stretched the wingspan and fuselage and stabilizer to try to copy Gordan's Pathfinder. I missed his dimensions a little, mine ended up with 780 square

inches and a 19 1/4 inch tail moment. It's first flying weight was 54 oz. I finished it the day I left to go to the Denver contest in 1997. I called it the EAGLE 780.

On the airplanes maiden flight I didn't finish the pattern because the wind got too bad. The third flight was my first official flight in Intermediate Class, I scored 419 points with a really nice engine run of 9 minutes and 30 seconds. The fifth flight on the airplane I scored 495.5 points and won Intermediate Class, and also received the Concourse trophy. Later that year I scored 525.5 points and won Advanced Class at the Utah State Championships. After the contest, Gordan flew the plane and told me I needed to change the controls because they were too fast. But I hesitated for a few months because to fix the controls meant I would have to cut into the fuselage on both sides top and bottom. After many lectures from Gordan, I finally got out the sharp knife and proceeded to fix the controls. Then I kicked myself for not doing it sooner.



Carl holding Eagle after first contest.

I went to Denver in 1998 for the Rocky Mountain Control Line Championships flew Advanced on Saturday and won. I then entered Expert on Sunday and won it as well. The last time I flew Advanced was at the Charles Mackey meet in 1999, but I had originally entered expert. Mike Causey and Dennis Choate talked to the contest director and had him move me to advanced so they could try and beat me. The advanced flyers and the expert flyers flew for the same judges at the same time, I would have placed



Eagle 780 before feathers.

third in Expert.

In October of 2000, the week before Golden State, I was practicing and doing an outside square loop on the second corner and I crashed. Because of the crash I lost confidence and started riding my street bike more and stopped practicing. In 2003 I had a bad motorcycle accident and was not able to walk for 14 months, so I stopped doing that. While I was laid up I figured out I could fly even from a wheelchair.

In 2005 I decided to go to the Nationals, but I knew that my profile Pathfinder or by Belfry Bound would not be very competitive in open class. So I pulled down the pieces of the Eagle and started a rebuilding project. As I finally examined the crash damage five years later I realized the stab had failed. I replaced the stab and modified the fuselage by moving the canopy back and recovered the entire plane. The new finished weight of the airplane ended up at

60 oz. I had a nice trip to the NATs and received 13 appearance points with a fully Monokoted airplane.

Getting ready for Wichita in 2006 the weekend before the contest I was practicing and my wife was launching for me, and my very first practice flight I had a rich engine run. Towards the end of the flight I thought I would see if it was about out of fuel by giving it a quick hard up, followed by a quick hard down from level flight, it went up



Eagle 780 with feathers.

turned down and continued down as it got close to the ground I gave it a quick up and it turned violently into the ground and skipped off the pavement and flew for half a lap. In that half a lap I figured out that up control was now down and down was now up. The pushrod adjustment bolt which was a 6-32 socket head capscrew broke. The fuselage was broken very badly, the wing and tail will be installed in a new fuselage soon. This time instead of an OS SF 46 I am going to use an OS VF 46 on a pipe.

The cover picture, on the March/April 2007 issue of Stunt News, was taken in Grand Junction at Walker Field Airport during the Special Needs Airshow in 2006. I am standing in front of my favorite Navy aircraft, the F-14D Tomcatt.

-Carl Shoup



## Walton Hughes - His Airplanes, and His Stunt Carburetor by Dick Sarpolus

Control Line Stunt has been a part of the model airplane hobby for a long time, and the history of the event is taken very seriously by its participants. Tradition, and nostalgia, play a big part in the way this type of flying is done today. Modern technology, of course, shows up and is utilized as in any competitive endeavor, but the ways of the past and the old aircraft designs are also part of the current scene through special events which mandate their use. This reverence for the past is evidenced by the interest in the pioneers and the old timers of C/L Stunt; their past activities and aircraft designs are researched and reported on for today's fliers to enjoy, and to replicate to enjoy and relive those earlier days of the event.

One of the men active in C/L Stunt during the early 1950s who left his mark on this part of the hobby, although the time of his involvement was brief, is Walton J. Hughes. His skills were impressive and his contributions may not be recognized by many of today's C/L enthusiasts, so we'll review some of his modeling activities. I was fortunate to live a few blocks away from Walt Hughes in Cranford, NJ, during the time frame he was active in the hobby, and he had an impact on my modeling. Leon Shulman also lived in the same town at the time, and I was lucky to belong to the same flying club as Reinhardt, Scarinzi, and Hunt; I watched Jimmy Walker fly three Fireballs at the same time, and in later years was able to meet Palmer, Aldrich, deBolt, and others in the hobby, so I definitely have a real appreciation for our long time C/L Stunt heroes.

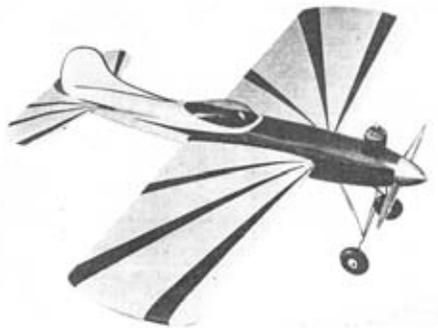
I met Walt Hughes when I submitted a twin engined stunter to Air Trails for possible publication; they sent Hughes over, as one of their writers, to evaluate the airplane. No surprise that my plane wasn't ready for prime time. But Walt took me to his workshop, and my eyes opened at the sights there. His airplanes were simply beautiful examples of the way to build a model. Clean in design, smoothly finished, nicely trimmed, light, and



Joe Gilbert's VSC-19 Guided Whistle.

his engines ran the way I wished mine would. A little research shows that he had six published stunt/sport type C/L designs in the years 1950, '51, and '52, in Air Trails and Flying Models magazines. I think he also did a few scale projects, but I don't have that information.

His first published design is the one of most interest to Old Time Stunt guys, and copies have shown up at the Vintage Stunt Championships over the years; it's the Guided Whistle and was in the May 1950 issue of Air Trails. At



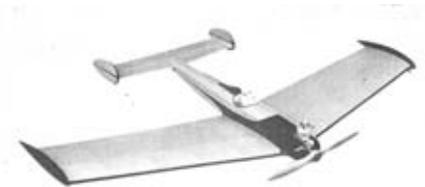
Guided Whistle, Air Trails May 1950.

a wingspan of 51" and an area of about 500 sq. ins., powered by an Atwood Champion .49, it's pretty typical of stunt designs at that time. Mid wing, bubble canopy, rounded surfaces, upright engine, forward landing gear, straightforward construction techniques, it was state-of-the-art. A little small by today's standards, it did have a fairly thick wing and if built lightly I'd think it would do the job on the old stunt pattern. With an Atwood .49, this thing must have been moving fast through the pattern! If only that landing gear wasn't so far forward. I can

note that Joe Gilbert did a very credible job with his Guided Whistle powered by a Super Cyclone on ignition at the 2007 VSC meet in Tucson.

Hughes had an early appreciation for light airframe construction. His stunt designs weren't built from balsa logs, they were made up of thin sheet balsa. He flew with Red Reinhardt and developed light weight aircraft designs with him. Bob Hunt tells me that Red admired Hughes greatly, considered him a super modeler. At the 1949 Mirror Meet, Red and Walt placed 1st and 2nd in Stunt.

Next we have his Little Missile, from the June 1950 issue of Flying Models.



Little Missile, Flying Models, June 1950

In this smaller airframe, 32" wingspan and 180 sq. ins., he used a K&B .09, and it had some advanced styling features - a swept wing, wingtip plates, and twin fins on the stab, along with an open cockpit. No landing gear, this one was for hand launched fun flying. Light construction, it must surely have been lively.

His High Pressure Pete was in the December 1950 Air Trails, a half-A airplane pulled by a little Baby Spitfire .045, and except for the forward



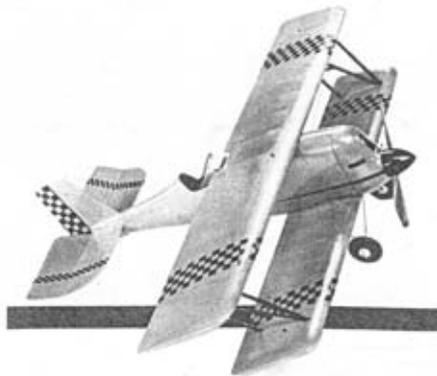
High Pressure Pete, December 1950, Air Trails located landing gear I'd think it would be a good flying airplane by today's standards. A little small at 26" span and 130 sq. ins. wing area, probably sized that way because the K&B .049 had so little power. Again, light construction and a nice looking airplane.

The Lil Lightning from the February 1951 Air Trails, although exotic in styling with its upswept twin booms, twin fins, and trike landing gear, couldn't be considered a real stunt model. At 25" wingspan, it was a good looking half-A sport machine.

His AT Interceptor from the April 1951 Air Trails was a twin engine project with some interesting technology, but had a close to flat bottom wing section so wasn't a full stunter. Loosely based on the Lockheed P-38, the styling was sleek, with very graceful lines and fully cowled engines. He got twin engine reliability from the two K&B .049s by running them on a Jim Walker pressure tank fuel system in the center

fuselage with a fuel regulator out on each engine. The construction of this 30" span design required a lot of balsa carving and shaping, and although Hughes' original looked awful good, I'd bet it wasn't often duplicated. It was fun just looking at the great double page spread cutaway drawing in the magazine.

One more design, his Double Whammy from the Air Trails 1952 Annual. This was a biplane project, 38" span with Fox .35 power. It's kool looking, with negative stagger wings and a fully cowled-in engine, pretty light construction and fully symmetrical airfoils. Walt said in the Double Whammy article that it would "do 8 or 10 consecutive vertical 8's without any trouble." Sounds good to me.

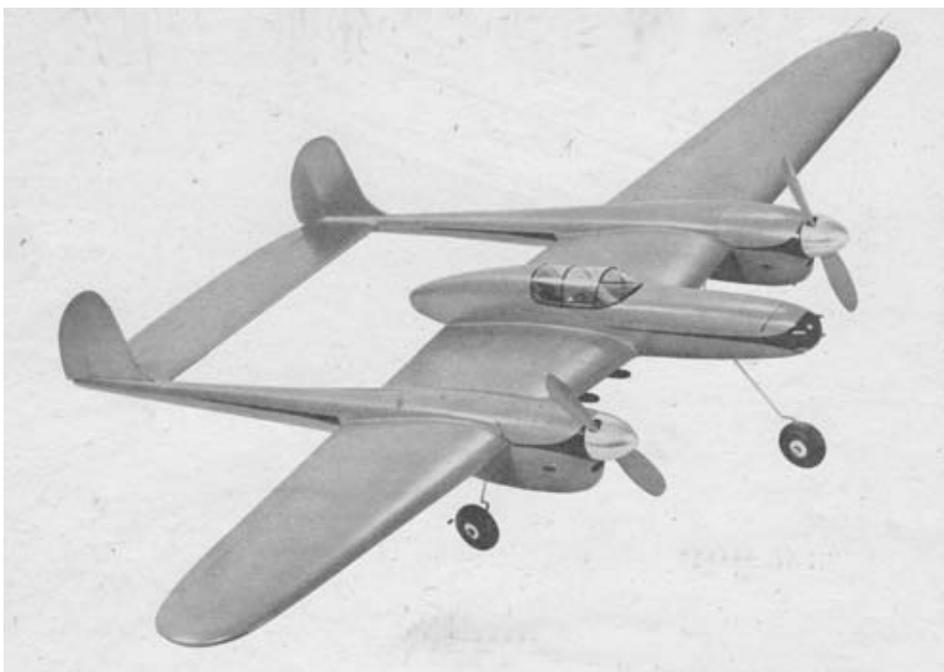


Double Whammy, Air Trails 1952 Annual

Walt had some other talents that

most modelers of the time may not have known about, as the magazines back then didn't always give credit to their writers. He did his own photography work, b&w of course, and had a full darkroom in his workshop. For Air Trails magazine, Walt Hughes was doing the engine test/review articles, although no one was ever listed as the person behind those articles. At times in his workshop, I would see the engine being reviewed completely disassembled by Walt. He would photograph the engine parts, then reassemble the engine, and run it to take the test data for the review article. I don't know if he made the engine drawings used in those articles; might have been someone else who didn't get any credit for his work.

Hughes developed, produced, and sold one accessory item for C/L Stunt fliers that might be of interest to today's modelers, and might be worth some further consideration of its features today. I don't recall exactly what he called it, but I'd refer to it as a "stunt carburetor." It was a machined aluminum venturi insert, incorporating the needle valve assembly, that was to be placed in the air intake of a Fox .35, K&B, McCoy, whatever, and was claimed to provide steadier running and improved stunt flying performance. Versions were made to suit the different engines. The fuel inlet was positioned behind the venturi opening, and was located slightly below the smallest diameter of the air opening. The insert itself had a tapered air inlet, and it then tapered out below to the crankshaft port opening. When the engine's standard needle valve was removed, the Hughes device was pushed into the intake and stayed there by the tight



AT Interceptor, April 1951 Air Trails



Stunt Carburetor



# The Playboy

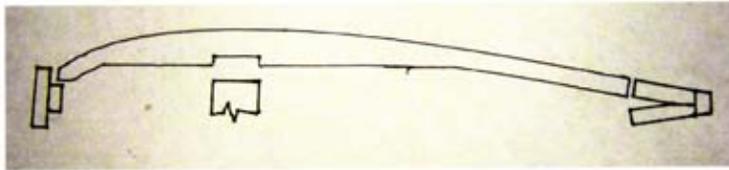
CLASSIC LEGAL  
As flown by Norm Whittle in the 1968 NATS



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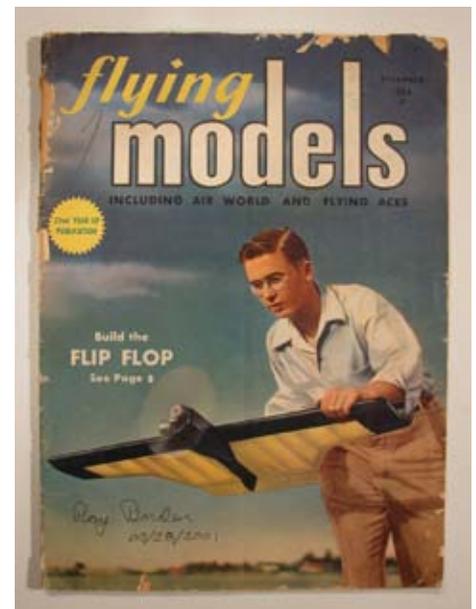
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carburetor". He was a great modeler and a good guy. I well remember the stacks of model airplane magazines he gave me; I wish I had them today. Why was he only active in the hobby those few years? That we don't know. He's part of our model airplane history, and will be remembered certainly around the C/L Stunt circles.

Another bit of C/L history, Ray Borden, my good friend who did the CAD drawings of Hughes's airplanes and carburetor for this article, is also the guy who designed the very first C/L flying wing. It was his Flip Flop, and Ray was pictured with that flying wing on the cover of the December 1948 issue of Flying Models, which contained the construction article. This history stuff is fun.



fit and the fact that the lower end was split for a slight spring effect. Today I'd think the stunt guys response would be - Who needs it? since our engines run so well as they are.

Hughes had machine tools in his workshop, a lathe, etc., and he produced these devices by hand. This was way before the CAD/CAM CNC machinery age, and he made each part with care. The American way. The body of the insert was machined of aluminum, and the fuel inlet fitting, needle valve itself, and adjustment retainer, were made of brass. That to me was the item's downfall; I think it didn't stand up to the stresses of normal use.

I had at least a half dozen of these

things, and I used them in my Foxes and other engines of the time. I remember them as definitely improving the stunt flying performance of the engines - but hey, I was a kid and what did I know. Under the vibration of a Fox .35, it wasn't long before that brass needle valve was loose in the aluminum body, and any performance benefits of the thing were likely lost. At any rate, I don't think Hughes's "stunt carburetor" gained too many fans, and he I'm sure didn't make a million bucks with it.

Looking back, Walton Hughes had about a half dozen C/L stunt designs published in the model mags during the early 1950s, he did a bunch of engine test articles, and he developed a "stunt

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-Dick Sarpolus

## INTERNATIONAL NEWS BRAZIL



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### Brazilian P-47D Stunt Team

World War II had a collaborative effort between the USA and Brazil in Northern Italy. A squadron of Brazilians flying P-47Ds in 444 missions helped the war effort. Their war cry was "Senta a Pua" (stick it to them).

Pat Johnston and Thomas Case met at the 2006 NATs and talked about a new collaborative effort between the USA and Brazil. They decided to recreate the "Senta a Pua" squadron for the 2007 NATs at Muncie. Bob Hunt volunteered to help out with plans of Bill Werwage's P-47 World Champion stunter. Pat offered to develop a new P-47 design based on his big Bearcat.

The die was cast and everybody got to work. Pat produced the new design in record time and Bob Hunt provided Bill Werwage's plans. In Brazil, Bene Rodrigues went to work producing beautiful laser cut kits for both types of plans.

The Brazilians responded. From all over Brazil there were requests for kits. Barabino from Argentina also ordered kits for he and his son. Balsa dust was everywhere.

We wanted to correct some mistakes that were made by the Brazilian P-51 squadron in 2006. All the pilots had to be able to do the pattern and the planes had to look good. We decide to have a

contest on May 5 & 6, 2007, in the São Paulo Ibirapuera Park to see who would go to Muncie for the NATs.

Pat Johnston was invited to be the judge of his own creations and the pressure was on. Bene Rodrigues organized the whole event with both open and advanced categories. There were 26 entries with 13 in each category.

May 5 dawned with a beautiful sunny day. There was a light breeze that blessed everybody. There was a marching band, dignitaries from the city government and a representative of the Brazilian Air Force. Speeches were made commemorating the occasion of the renewed cooperation between Brazil and the USA.

There were three rounds of flying for both categories. Many of the planes were having their initial flights. Three planes were lost. It looked like Northern Italy in WW II all over again. As the rounds progressed the planes got better.

Pat Johnston with his two assistants were kept busy judging. Appearance points were given utilizing the NATs style of ordering. Score sheets with carbons just like the NATs were also used.

The second day of flying was more challenging. As the open event started a wind came up with a terrible turbulence. The P-47s were buffeted and seemed to almost stop in the overhead eight. Bene Rodrigues had impecably organized the event and topped it off by winning first place without any challenges of conflict of interest.

The Brodak Intermediate event at the NATs inspired the prizes. Plaques were awarded to the top 10 in each category with photographs of the planes and the contestants. The top 3 of each category received a new Saito 72 four stroke engine as a prize.



19 P-47s waiting to fly.



Clovis Chiodi with his beautiful P-47 that was 2nd in open.



Pat Johnston giving a helping hand with a P-47.



The judges Pat Johnston, Martin and Ary.



The "Senta a Pua" P-47 squadron ready for the NATs in Muncie.

The "Senta a Pua" squadron of P-47s is now tested and ready for Muncie. We thank the Americans for the designs and support.

-Thomas A. Case



## SOUTH AFRICA



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### News from South Africa by Percy Attfield

Tom McClain has been very active to persuade us to contribute to Stunt News, thank you Tom. The silence from this side is a reflection on all that has been going on and not reluctance to respond to Tom's requests. I apologise and will try to make amends with a review of the past year.

I expect the review may result in a series of articles and provide intermediate headings to assist with the serialization if it is required.

First of all a prosperous and happy 2007 comes to all of you from the South tip of Africa. While many of you are moving through winter, summer is at its peak with us. Today, 6 January 2007, the peak temperature was 34 degrees C or 93 degrees F. The past weekend was similar.

### Changes at Northern Circle Burners

During 2006 Northern Circle Burners (NCB) made a decision to move to a new flying site about 16 kilometres (10 miles) South East of the present site. The new site is part of big radio control club named Barnstormers Radio Flyers. As a result of the merger they changed

their name to Barnstormers Flying Club (BFC). The result is that NCB has been moth balled and the new name is BFC Control Line section.

This change was made because of two main reasons. First a property development company bought the NCB facility from the mining company and the writing was on the wall that some time during the next 3 to 5 years we would be asked to leave. Second we have for some time now discouraged people from flying alone at NCB due to safety risks. This meant that flying alone during the week was a problem. With the number of people at Barnstormers there are always members at the field during the week.

However making the decision to move; and implementing it, are two different things. Negotiating the two clubs amalgamation, even though both clubs wanted to do it, took time. The name changes had to be sorted out and passed at AGM's and Special AGM's. Two new circles had to be built; one tar circle and one grass circle. Henry Kurowski and Roston Dugmore worked hard to make the dreams into reality. Henry is also the Control Line representative on the new Barnstormer club committee.

It was decided to have a final NCB day as the year end function at the end of November. This site known as the New Rock site has been in operation since 1993 and many of us have fond memories of it.

The weather did not play along, a very windy and cold day when it was supposed to be summer. Never-the-less we all enjoyed the occasion and Lionel Smith also showed South Africa's first electric stunter. A few photos of the day are included. One of the photos shows Nic van der Westhuizen and Roston Dugmore with planes that were also at the circle inauguration. In fact Nic has been flying his Twister most weekends for the past 23 years. He is one of the best pilots in South Africa and consistently places under the first 3 at the NATs. His name appears a few times on the Ford trophy that goes to the NATs



Summer in South Africa! Rina Attfield, granddaughter and Bokkie Renecke.



Some of the gathering.



Nic van der Westhuizen and Roston Dugmore



Lionel Smith shows South Africa's first electric stunter.

Aerobatics winner.

### The SA Control Line NATs

In between all of this we had a good NATs at the beginning of May. It is a three day event with most of the disciplines being flown in serial fashion so that the team race competitors can assist with stunt judging and the stunt competitors assist with team race and

combat activities. Also many of us compete in all the disciplines.

Even though the last day was blown out which meant that only two rounds of Aerobatics was flown we all enjoyed it. In South Africa we fly the F2B schedule and scoring system. The schedule is the same as the USA pattern except there are no appearance or pattern points and the engine run is a maximum of 7 minutes. The scoring system includes K-Factors into the calculation.

The NATs was held at NCB close to Johannesburg at an altitude of 1,750 metres (5,600 feet) and hot dry weather. This year the NATs will be at our new field and two weeks earlier on 13, 14 and 15 April. It should be even warmer than last year but the weather tends to be too unstable at the end of April. Then again the weather is what you have on the days and trying to plan for it could prove quite futile.

Of course, this altitude, high temperature and hot dry weather cause interesting air to fly in. Engine set up, particularly prop pitch and venturi sizes are different from sea level and you use less fuel in the less dense air. Except, of course, if you increase the nitro percentage of the fuel to deal with the less dense, hot and dry air conditions, as the nitro content increases the fuel consumption increases.

#### **Kwazulu-Natal Championships**

This annual contest is organised by Dirk Meyer during the last weekend of September at Durban and most of the NCB and Free State members make a mini vacation out of the opportunity. Durban, one of South Africa's main coastal cities, is 7 hours drive south east from Johannesburg. The weather is subtropical and the contest is always enjoyed by all those present with Dirk and Vera providing breakfast and dinner at their house during the three days of the contest. Last year competitors from the Cape Province also joined the mini vacation atmosphere.

A most enjoyable annual contest that has become a favourite and is looked forward to with anticipation each year; this Durbs at the sea event.

#### **Other activities**

A number of new planes were built and Keith Reneclc and Loren Nell represented South Africa at the Worlds in Spain with two of these. We are

proud of their achievements and enjoy



Keith Reneclc and Joe Carpenter with Keith's new Viper.



Loren Nell's new plane.

watching them fly.

Members of NCB were invited to fly their aerobatic planes at many Radio Control events during the year. One such event was at Rustenburg about 2 hours west of Johannesburg. It is very close to Sun City, the Lost City and to Pilansberg Game Reserve. During the year Richard and Pat Lyle Barlow from Canada visited, Rina and I took them to Pilansberg for 3 days. During this time we saw Lions on a night drive and many Elephants and other game during the days. Keith and Bokkie took them to Kwazulu-Natal spending time at various sights that they had identified as places of interest to them; also ending up with Dirk and Vera in Durban.

Roston Dugmore and I attended the



Roston's Blue and White SV 11 and my Red and Yellow Wind Dancer at Rustenburg.

Rustenburg fly in.

Keith Reneclc continued to develop his aerobatics computer simulation program showing clearly what impact, the sphere we fly in, has on our perception of how the manoeuvre should look. This has been a labour of love which is starting to reap the recognition it deserves throughout the world. He is working hard to put an excellent presentation that he also made to the F2B rules subcommittee and other members of the Control Line fraternity at the Worlds into written format. However, this is proving to be a daunting task.

In addition to these activities it is also necessary to find time to read Stunt News which is a great magazine. It seems that if your name is Tom, you and your team work magic. In addition to the great modelling articles it also provides me with information about what my many friends in the USA are doing. Still today I first check what is happening in Colorado, great column Carl and thanks for keeping me updated.

The New Year will also see the Art Adamissin trophy and the Masters contests taking place. These contests take place very two years and are part of the three contests that are used to select the South African F2B team for the Worlds. The other contest is the NATs.

It promises to be a busy year that we are looking forward to. As always I end by extending a hearty invitation to those of you who like to travel; to visit us. There is always space at home for few travellers.

Best wishes from South Africa.

-Percy Attfield



## UNITED KINGDOM



**Ian Russell**  
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London, United Kingdom, W13 9QE  
(0181)932-6783  
rustler@aero.fslife.co.uk

this gets to you o.k. The machine has been back 4 times to PCWorld and every time comes back the same or worse! All I can do is basic e-m's, - I think.

- Ian Russell

PS. Photo hopefully attached.

*Yes Ian,  
We got the picture and the caption.*

- Tom McClain

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## UK, Spring 2008, Milton Keynes Modellers

Tom, I'm having terrible computer  
probs at the moment, but may find



“The Milton Keynes Modellers Good Friday season opening flying session, 2007.” “A group of Milton Keynes fliers at their traditional season opening 2007 Good Friday flying session. Weather was excellent, and the session proved a good checkout that the gear was still functioning from last season, and what needed fettling to get sorted for the upcoming season.





# PAMPA Products Price List

## Prices Effective January 2007

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| <b>AMA RULES:</b> CLPA Current Year .....                                             | 2.00    |
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| Rule Change Proposal Form .....                                                       | .25     |
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| Score Sheets - Expert, Advance, Intermediate .....                                    | .25     |
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| Master Check Sheet for Head Judges .....                                              | .25     |
| Stunt News Report Form .....                                                          | .25     |
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Precision  
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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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Strega ARF/ARC by Reuben MacBride. Photo by Reuben MacBride.

Darrell Harvin's McDonald Stiletto. Photo by Darrell Harvin.



Dave Fitzgerald's seasoned Star Gazer. Photo by Randy Powell.



Carl Shoup and his Eagle 780. Photo by Carl Shoup.



Scarinzi Blue Angel by Randy Cuberly. Photo by Mike Keville.



Les McDonald's NATs and Walker Cup winning Stiletto. Photo by Darrell Harvin.



Laury Wong and his Imitation Plus. Photo by Dave Fitzgerald.



Frank Carlisle and his RSM Bob Whitely LA Heat. Photo by Crist Rigotti.



Chris Cox of Canada and his Saturn at the 2007 NW Regionals. Photo by Randy Powell.



Temptation by Paul Pomposo. Photo by Randy Powell.



Bill "the Batman" Rutherford with his full size RV-6 and his RV-6 stunt model. Bill spent seven years building the RV-6 and decided to build a stunt model of it too. Bill is a long time competer and friend. Photo by John Hill.



T. Kettle



Jim Aron's beautiful Infinity Prime. Photo by Randy Powell.



Robert Storick's Bill Werwage P-47D Thunderbolt. Photo by Allen Brickhaus.



Crist Rigotti's Jamison Special. Photo by Allen Brickhaus.



John Rakes and his Strega. Photo by Bill Little.



Super Ares by Ken Cerny. Photo by Dale Barry.



2007 KOI Expert Champions: Josias Delgado, Derek Barry, and Bill Rich. Photo by Dale Barry.



Viking by Patrick Rowan. Photo by Patrick Rowan.

Mr. Kawasaki and Akihiko Naruse with their twin engine G4M1 Betty and G3M1 Type 96 Nell Bombers in Japan. Photo by Akihiko Naruse.

