


Breda 88 by Chris Starleaf
Willis with husband Roger at the
The lovely Bianca Willis with husband Roger at the reception area.


All of the photos on this page were sent by Roger Willis.
Cover shot: The WALT MOONEY MEMORIAL WESTFAC TROPHY, constructed by Keith Sterner and transported all the way from Pennsylvania for the occasion, was awarded to the $1^{\text {st }}$ place Peanut Scale entry, Mike Isermann's Boeing 306B. Ross Mayo's sponsor poster has been pasted into the background through the magic of Photoshop.

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Plans- A classic that I'm sure will be of interest to all the guys looking to get into the new Half Wakefield event; Earl Stahl's "Gypsy" is from the September, 1942 Flying Aces Magazine, and it's already half size! A couple of Peanut Scale selections: Fairchild PT-19 is from Janick Model Engineering, and the Bebe Jodel from Christian Frugoli.


If the Dreaded Red $\mathbf{X}$ shows up on your address label, it is time to renew your membership which includes six issues of this newsletter.
Please note: the Red X is the only notice you will receive.

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- OVERSEAS = \$40.00 US - PayPal

To use the PayPal option, go to flyingacesclub.com and click on "membership." The PayPal button is at the bottom of the page.
Please make checks payable to: Flying Aces Club,
9154 Eldorado Trail, Strongsville, OH 44136

If you have a change of address or questions about your membership - send them to the address above or email join@flyingacesclub.com

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When contacting FAC officers via email, please be sure to include "FAC" in the subject line so that your message isn't overlooked.

A very limited number of BACK ISSUES are available from GHQ at $\$ 5.00$ each. Be sure to renew on time!

FAC GHQ, 4207 Crosswinds Dr., Erie, PA 16506-1299


Greetings Junior Birdmen,
Lots of good things have been happening since the last issue of the newsletter hit your mailbox. There was so much great material for this issue that it was hard to choose. That's a nice place for an editor to be. Please keep those articles and photos coming!

WESTFAC III was to be the feature event of the year for the FAC, and it lived up to its billing. All of the reports that I've received have been glowing! There's a complete rundown of the results, and some comments from the organizers on the pages that follow, and there will be more in the next issue. The FAC Non Nats also went off smoothly. The DC Maxecutors hosted the event for the first time, and did a first rate job. Their new computer tabulation system passed its first test with flying colors. Almost lost in the shuffle, the AMA Nats in Muncie had a good showing of FAC fliers despite the scheduling overlap with the Non Nats.

The FAC Store at Café Press has been busy cranking out those great shirts and other FAC logo merchandise. New items have been added recently so check it out, and start dropping some hints to Santa! http://shop.cafepress.com/flying-aces-club

One thing you might notice in this issue is the almost complete lack of advertising. For some time, we have been allowing FAC members to place a free ad on a space available basis. The "free" and "space available" aspects are very useful for a one-man operation. It means that the ads can go in last, instead of first, and it saves a whole lot of bookkeeping.

You may have also noticed that in the past, there's a lot of variation in the quality of the ads. That's because we're all still learning how to deal
with the digital age. Both the advertisers and I are trying to find the format that works best. I don't think anyone would like to see our newsletter become overloaded with ads, but I also think that many members appreciate the opportunity to learn about new suppliers and products. The Free Flight community is a very small market, and many of the suppliers are cottage businesses. The FAC News is a great place to connect the two groups. We'll be reviewing the FAC's advertising policy in the near future. If you would like to get involved, please contact me. We could use a guy or gal to act as an advertising coordinator or ad designer.

As you can see in the photo on the next page, we've received the gift from Jack McGillvray, and after a bit of a paperwork delay, the funds are now deposited in the FAC's accounts. A committee was appointed to suggest the best way to manage these funds, and their recommendations have been followed. The best news (for me) was that we've purchased some much needed equipment and software for the production of the newsletter! Now all I have to do is learn how to use it.

I hope the article from Matt King on his activities with the "RAF" will inspire others to try something similar. Matt was in a perfect position to organize the new club. Perhaps others in similar situations can learn from his experience. Free Flight modeling has a lot of competition for the attention of today's youth, but it's not hopeless. Matt and his cohorts are to be congratulated for their efforts.

Back in 1941, Charles Hampson Grant wrote a book that is still one of the most useful resources ever done for modelers. George White has created a series of articles based on Grant's work, and we'll be running them over the next several issues. I'm sure we can all learn, or relearn something from reading this series.

See you on the flying field!

Rich Weber
newsletter@flyingacesclub.com

## FAC Top Gun Award

The FAC awarded our top scoring Air Marshall, Gordy Roberts, the first ever "Top Gun" medal at the recent FAC Non Nats. Gordy had to leave the field before the award could be presented, but CinC Ross Mayo tracked him down at a local restaurant and reenacted the presentation for the cameras.

Gordy's record of $540 \mathrm{Ka}-$ nones (and still counting) is an indication of his dedication to building and flying Free Flight models in the SPIRIT of the Flying Aces Club.



The "giant check" ceremony at our bank in Erie went off smoothly, even if the actual funds took a bit longer to catch up. The bank manager, Mary Liotta, took this shot of FAC club officers, Rich Weber, Ross Mayo, and Blake Mayo for the bank's newsletter.

## Worthwhile Website

One of the FAC's most enthusiastic promoters is at it again. Chris Boehm has been busy posting a slew of Peanut Scale plans on the web (address below). You'll have to "join" to get access to them, but the process is simple and free. Once in, click on the "files" tab and then hit the "Livesay" file to see a list of hundreds of plans ready to download for your next project.
http://groups.yahoo.com/group/ merlin236/

## WESTFAC.... Hello from the Folks out West

## WESTFAC Mk. III

Denver, Colorado June 22-25, 2011
Roger Willis

WESTFAC III is now part of FLYING ACES history. Those 27,000 acres in Denver proved to be the outstanding free flight site that it was cracked up to be (no pun intended).

Things got off to a rousing start at our fantastic HQ hotel in Parker Colorado with the scale judging. The judging facility was a large ballroom completely set up to our standards by a hotel staff who really understood what outstanding service was all about. The SPONSOR posters, many done from original art drawn by flyer Duke Horn from Texas, were placed on the walls all around the room to show everyone how WESTFAC feels about its Sponsors. Between 2PM and 7PM, over 200 scale models were judged.

This WESTFAC was expanded to three flying days with 23 events. Flying got underway at the site near Parker on Thursday, with a full schedule each day. You can check out the results on the pages that follow. Our WALT MOONEY MEMORIAL WESTFAC TROPHY, constructed by Keith Sterner and transported all the way from Pennsylvania for the occasion, was awarded to the $1^{\text {st }}$ place Peanut Scale entry, Mike Isermann from Texas, who
built a Boeing 306B for the event. Our new WESTFAC Grand Champion for 2011 is Don DeLoach.

The most thrilling moment was the 58 sec . flight of Chris Starleaf's rubber powered B-24. The entire flight line was shouting and clapping as this big beauty climbed slowly into the blue sky of Colorado and began the longest flight any of us had ever seen from four rubber motors unwinding into the sun.

The weather treated us well. Winds and drift were moderate and the sun was out everyday. Thermals were there for those who could catch them.

The WESTFAC Denver venue Team did one of the most professional event management jobs I have ever seen. Chuck Etherington was everywhere at one time. His Contest Director efforts made WESTFAC III a zero complaint event. We tested a new score card used by the MMM Club and modified for a FLYING ACES event. This allowed for faster posting and easier flyer handling. WESTFAC will adopt this new scoring card for WESTFAC IV.

The three WESTFAC venues are now fully operational: Perris California, Gainesville Texas and Denver Colorado as WESTFAC IV returns to California in 2013.

At our Awards Banquet, Keith Sterner said that we'd certainly made our objective, this was the most fun I have had at a contest. For us folks in WESTFAC, that's high praise. That Mission Statement goes unchanged and remains the mast head of our web-site: www.westernfac.com Many maxes to all..................r

GRUMMAN MASS LAUNCH, WON BY DON DELOACH.

All photos from WESTFAC are courtesy of Roger Willis unless noted.


# WESTFAC Mk.III Official Results 

Contest Director: Chuck Etherington Contest Manager: Don DeLoach WESTFAC Chairman: Roger Willis

With profound thanks and gratitude to the many volunteers from the Magnificent Mountain Men Club, SAM 1 and elsewhere. This contest could not have happened without the hard work put in by men whose names appear below. Read through the list, then read it again. And thank these guys next time you see them.
Scale Judges: Randy Reynolds, Marc Sisk, Phil Thomas, Ed DeLoach, Mike Isermann, Don DeLoach, Rick Pangell, Jeff Pakiz and Darold Jones.

Scorekeeping: Jim Whelan, Dave Wineland, Ed DeLoach, Rick Pangell, Bob Hodes, Chris Starleaf, Don DeLoach, Mark Covington, Darold Jones, Duane Hjerlied, Bill Gieskieng and Marc Sisk.

WWI Combat (Director: Mike Isermann)

| Flyer | Aircraft | Round 1 | 2 | 3 | Place |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Chris Starleaf | Pomillio PE | 5 sec. | 3 | - |  |
| Mike Midkiff | SE-5 | 34 | 33 | 33 | $2^{\text {nd }}$ |
| Herb Kothe | Fokker D.VII | 10 | - | - | $5^{\text {th }}$ |
| Jerry Murphy | Fokker D.VII | scratch - | - |  |  |
| Keith Sterner | Albatros D.I | 42 | 50 | 7 | $3^{\text {rd }}$ |
| Duke Horn | Fokker D.VII | 14 | 25 | - | $4^{\text {th }}$ |
| Don DeLoach | Martinsyde F. 446 | 72 | 44 | 1st |  |

WWII Combat (Director: Randy Reynolds)

| Flyer | Aircraft Round | 1 | 2 | 3 | Place |
| :--- | :--- | :--- | :--- | :--- | :---: |
| Herb Kothe | Yak-3 | 123 | 81 | 74 | $3^{\text {rd }}$ |
| Robert Hodes | Yak-3 | 61 | 19 | - |  |
| Chris Starleaf | Barracuda | 135 | 73 | 86 | 1st |
| Don DeLoach | F4U Corsair | 63 | 73 | 76 | $2^{\text {nd }}$ |
| Ed DeLoach | Tony | 15 | 6 | - |  |
| Phil Thomas | P-51B | 2 | - | - |  |
| Roger Willis | Barracuda | 4 | - | - |  |
| Tom Arnold | P-39 | 73 | 3 | - |  |
| Orv OIm | Avenger | 46 | 43 | 41 | $4^{\text {th }}$ |
| Duke Horn | Sea Wolf | 64 | 4 | - |  |
| John Hutchison Hellcat | 6 | - | - |  |  |
| Mike Isermann | Ki-61 | 125 | 4 | - |  |
| Jerry Murphy | Sturmovik | 15 | 25 | 18 | $5^{\text {th }}$ |


| Thompson Race (Director: Mike Isermann) |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Flyer Aircraft Round 1 2 3 Place <br> Chris Starleaf Cessna CR-3 93 82 N/A $2^{\text {nd }}$ <br> Don DeLoach Cessna CR-2 88 94 N/A 1st <br> Phil Thomas Seversky 20   $3^{\text {rd }}$ |  |  |  |  |  |  |

Greve Race (Director: Chris Starleaf)

| Flyer | Aircraft | Round 1 | 2 | 3 | Place |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Don DeLoach | Brown B-2 | $>2$ | 72 | 52 | $4^{\text {th }}$ |
| Robert Hodes | Chambermaid | $>2$ | 52 | 61 | $2^{\text {nd }}$ |
| John Hutchison | Goon | 1 | - | - |  |
| John Donelson | Goon | $>2$ | 69 | 80 | 1st |
| F. Ramos | Mr. Smoothie | $>2$ | 14 | - | $5^{\text {th }}$ |
| Phil Thomas | Jackrabbit | 2 | - | - |  |
| Mike Isermann | Brown B-2 | $>2$ | 60 | 59 | $3^{\text {rd }}$ | d

Grumman Military M.L. (Director: Ed DeLoach)

| Flyer | Aircraft | Round | 1 | 2 | 3 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Place |  |  |  |  |  |
| Mike Isermann | Martlet | scratch | - | - |  |
| Mike Midkiff | Hellcat | 41 | 41 | 2 | $3^{\text {rd }}$ |
| John Donelson | Guardian | scratch | - | - |  |
| John Hutchison | Hellcat | scratch | - | - |  |
| Phil Thomas | Hellcat | 31 | - | - |  |
| Orv Olm | Avenger | 32 | 11 | - |  |
| Tom Arnold | Hellcat | 46 | 50 | 48 | $2^{\text {nd }}$ |
| Pat Murray | Avenger | 61 | 39 | scratch | $4^{\text {th }}$ |
| Don DeLoach | Wildcat | 49 | 127 | 80 | $\mathbf{1 s t ~}^{\text {st }}$ |
| Robert Hodes | Hellcat | 48 | 23 | - | $5^{\text {th }}$ |



## Mike Midkiff with his Tiger Moth



Low Wing Trainer M.L. (Director: Darold Jones)

| Flyer | Aircraft Round | 1 | 2 | 3 | Place |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Robert Hodes | Magister | 17 | - | - |  |
| Chris Starleaf | T-28 | 45 | 50 | 63 | $2^{\text {nd }}$ |
| Don DeLoach | DH.94 | 3 | - | - |  |
| Phil Thomas | T-6A | 57 | 7 | - |  |
| Tom Arnold | Firefly T-1 | 31 | 33 | 5 | 5 th |
| Herb Kothe | Magister | 111 | 93 | 115 | 1st |
| Duke Horn | PT-19 | 32 | 33 | 32 | $4^{\text {th }}$ |
| Pat Murray | T-34 | 50 | 62 | 59 | $3^{\text {r }}$ |

Goodyear/Formula Race (Director: Bob Hodes)

| Flyer | Aircraft Round | 1 | 2 | 3 | Place |
| :--- | :--- | :--- | :--- | :--- | ---: |
| Don DeLoach | Miss DARA | 60 | - | - | 1st |
| Chris Starleaf | Owl "Pogo" | 1 | - | - | $2^{\text {nd }}$ |

Flying Horde (Director: Don DeLoach)

| Flyer | Aircraft |  | Place |
| :--- | :--- | :--- | :--- |
| Marc Sisk | Lacey | 60 | 1 st |
| Keith Sterner | Albatros | 17 | $2^{\text {nd }}$ |
| Jerry Murphy | Fokker | 7 | $3^{\text {rd }}$ |

Modern Civil Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Orv Olm Cessna 180 | 46 | 42 | 70 | 158 |  |
| Mike Isermann | Helio Courier | 28 | 26 | 28 | 82 |

Embryo Endurance

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Bonus | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Don DeLoach | Embryomatic | 114 | 120 | 120 | 9 | 363 |
| Ed DeLoach | Embryomatic | 120 | 110 | 81 | 9 | 320 |
| Herb Kothe | Go Devil | 120 | 120 | 45 | 9 | 294 |
| John Donelson | Embryomatic | 100 | 78 | 79 | 9 | 266 |
| Pat Murray | Jabberwock Jr. | 59 | 55 | 72 | 9 | 195 |
| Roger Willis | Debut | 120 | 0 | 0 | 8 | 128 |
| Jeff Pakiz | Mooney Bird | 32 | 26 | 21 | 9 | 88 |
| Mike Isermann | Embryomatic | 54 | 0 | 0 | 9 | 63 |
| Robert Hodes | Micro Box | 51 | 0 | 0 | 9 | 60 |

Old Time Stick

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Herb Kothe | Gollywock | 120 | 120 | 120 | 360 |
| Don DeLoach | Gollywock | 120 | 120 | 83 | 323 |
| John Hutchison | Vargowock | 94 | 92 | 120 | 306 |
| F. Ramos | Red Buzzard | 120 | 102 | 79 | 301 |
| John Donelson | Gollywock | 120 | 120 | 60 | 300 |
| Roger Willis | King Harry | 70 | 63 | 120 | 253 |
| Duke Horn | Wanderer | 50 | 57 | 120 | 227 |
| Pat Murray | Erie Daily Times | 92 | 78 | 0 | 170 |



Ruth and Duke Horn with P-39

FAC Old Time Cabin

Below Left: Orv Olm with Grumman Avenger


Modern Military Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| John Donelson | Guardian | 120 | 77 | 120 | 317 |
| Pat Murray | Delfin | 48 | 82 | 52 | 182 |
| Tom Arnold | Seamew | 42 | 56 | 66 | 164 |
| Chris Starleaf | Attacker | 53 | 60 | 23 | 136 |

Dime Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | BP | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Lee Campbell | Monocoupe | 69 | 30 | 50 | 0 | 149 |
| Orv Olm | Fokker D.VII | 43 | 28 | 53 | 15 | 139 |
| Pat Murray | Mulligan | 32 | 27 | 46 | 0 | 105 |
| Mike Isermann | Arado 96 | 57 | - | 23 | 10 | 090 |

## Pseudo Dime Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Avg. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Don DeLoach | Chambermaid | 97 | 120 | 120 | 112.3 |
| Orv Olm | Waterman | 89 | 52 | 53 | 64.7 |
| Keith Sterner | Albatros | 41 | 34 | 29 | 34.7 |
| Phil Thomas | A-36 | 30 | 26 | 0 | 18.6 |

Golden Age Civil/Military

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Don DeLoach | Cessna CR-2 | 101 | 76 | 91 | 268 |
| Herb Kothe | Taylorcraft | 120 | 120 | 25 | 265 |
| Orv Olm | Fairchild 24 | 64 | 79 | 111 | 254 |
| Mike Midkiff | Tiger Moth | 32 | 39 | 0 | 71 |

## 2-Bit Plus One

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Herb Kothe | B.A. Cabin | 94 | 120 | 120 | 334 |
| Robert Hodes | F.A. Moth | 100 | 63 | 120 | 283 |
| Duke Horn | King Harry | 120 | 42 | 69 | 231 |
| Ed DeLoach | Skokie | 41 | 89 | 81 | 211 |
| Roger Willis | B.A. Cabin | 87 | 0 | 0 | 87 |
| Ed Comfort | F.A. Moth | 25 | 23 | 29 | 77 |
| Don DeLoach | Skokie | 21 | 0 | 0 | 21 |

Jimmie Allen

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Total |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Robert Hodes | Skokie | 77 | 120 | 120 | 317 |
| John Hutchison | B.A. Cabin | 72 | 93 | 120 | 285 |
| Herb Kothe | B.A. Cabin | 101 | 75 | 93 | 269 |
| Ed DeLoach | B.A. Cabin | 120 | 69 | 70 | 259 |
| F. Ramos | Sky Chief | 44 | 0 | 0 | 44 |

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$\qquad$ $-$ $\qquad$ $-$ Email

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Mike Isermann launching his Peanut Scale winning Boeing 306B Keith Sterner Photo
FAC Power Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Flt Pts | Static | Bonus | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Robert Hodes | Sopwith | 120 | - | - | 120.00 | 55.50 | 25 | 200.50 |
| Mike Midkiff | Besson | 108 | 120 | - | 120.00 | 60.00 | 20 | 200.00 |
| Mike Midkiff | DH-2 | 57 | 86 | - | 86.00 | 56.50 | 25 | 167.50 |

FAC High Wing Peanut

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Flt Pts | Static | Bonus | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Mike Isermann | Tailwind | 69 | 53 | 59 | 64.50 | 62.25 | 0 | 126.75 |
| Orv Olm | Cougar | 51 | 50 | 55 | 55.00 | 62.25 | 0 | 117.25 |
| Marc Sisk | Lacey | 36 | - | - | 36.00 | 61.00 | 0 | 097.00 |

FAC Jumbo/Giant

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Flt Pts | Static | Bonus | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Chris Starleaf | B-24 | 54 | - | - | 54.00 | 61.00 | 40 | 155.00 |
| Mike Midkiff | B-25 | 49 | - | - | 49.00 | 60.00 | 30 | 139.00 |
| Duke Horn | J-2 | 87 | 30 | - | 73.50 | 54.50 | 0 | 128.00 |
| F. Ramos | Douglas O-38 | 22 | - | - | 22.00 | 57.50 | 15 | 116.50 |

FAC Peanut Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Flt Pts | Static | Bonus | Total |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Mike Isermann | Boeing 306B | 39 | 47 | 31 | 47.00 | 62.50 | 25 | 134.50 |
| Don DeLoach | Miss DARA | 60 | - | - | 60.00 | 61.50 | 5 | 126.50 |
| Chris Starleaf | MU-2 | 24 | - | - | 24.00 | 60.50 | 30 | 114.50 |
| Rick Pangell | Halberstadt | 31 | 25 | 30 | 31.00 | 58.50 | 15 | 104.50 |
| Pat Murray | P-47 | 34 | 20 | 28 | 34.00 | 58.25 | 10 | 102.25 |

FAC Scale

| Name | Aircraft | Flt 1 | Flt 2 | Flt 3 | Flt Pts | Static | Bonus | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chris Starleaf | Breda 88 | 120 | - | - | 82.50 | 61.50 | 30 | 174.00 |  |
| Mike Isermann | Ki-61 Hien | 120 | - | - | 82.50 | 61.50 | 10 | 154.00 | Sponsors and contestants: Above, Fernando Ramos; Below, Orv Olm \& Marci Green of Gizmo Geezer fame |
| Don DeLoach | F4U Corsair | 120 | - | - | 82.50 | 61.00 | 10 | 153.50 |  |
| Pat Murray | L-29 Delfin | 109 | 42 | 60 | 79.75 | 55.50 | 5 | 140.25 |  |
| Mike Midkiff | Dh. 103 Hornet | 34 | - | - | 34.00 | 61.50 | 35 | 130.50 |  |
| John Donelson | Guardian | 71 | - | - | 65.50 | 57.00 | 5 | 127.50 |  |
| Jerry Murphy | Fokker D.VII | 25 | 52 | 28 | 52.00 | 58.50 | 15 | 125.50 |  |
| Orv Olm | Fairchild 24 | 65 | - | - | 62.50 | 58.50 | 0 | 121.00 |  |
| Duke Horn | P-39 | 52 | 36 | - | 52.00 | 58.00 | 10 | 120.00 |  |
| Marc Sisk | Lacey M-10 | 55 | 37 | - | 55.00 | 58.00 | 0 | 113.00 |  |
| John Hutchison | Chester "Goon" | 36 | 41 | 43 | 43.00 | 60.50 | 5 | 108.50 |  |
| Don DeLoach | F4F Wildcat | 120 | - | - | 82.50 | 62.00 | 5 | 149.50* |  |
| Mike Isermann | Boeing 306B | 52 | 44 | 49 | 52.00 | 62.50 | 25 | 139.50* | $5470 \times 1$ |
| Orv Olm | TBF Avenger | 22 | - | - | 22.00 | 57.00 | 5 | 084.00* |  |
| *second entries do not count for final placings |  |  |  |  |  |  |  |  |  |
| WESTFAC III Grand Champion* |  |  |  |  |  |  |  |  |  |
| Don DeLoach -46 points Herb Kothe-32 Chris Starleaf - 26 |  |  |  |  |  |  |  |  | - |

Mike Isermann-23 Robert Hodes - 17



This winding clip appeared many years ago in a column by Fernando Ramos in Model Builder. I recently asked him who invented it, and he didn't even remember that he published it!


Start with a medium-size alligator clip and carefully drill a 1/16-inch dia. hole near the tip of one jaw. Remove the screw from the clip. Form a loop on one end of a length of .032 music wire. Work the long end of the wire through the tube end of the clip so that the loop is positioned over the screw hole and screw it in place. In order to keep the wire centered in the tube, you may want to bend a slight kink into the wire before screwing it into place. Now form a second loop in the wire, about $1 / 2$-inch aft of the tube. The bent end of a prop shaft, the part that normally engages the ramp or freewheeler of the prop, fits into the hole. Now close the jaws, and the wire will be secured. Place the winder hook into the other loop and you're set to wind. With this arrangement, the prop assembly never has to be removed from the rubber for winding.

I've used this for at least 25 years and never had a mishap.
The Gadgeteer


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Bonus Point Quiz
```



## News Flash

## Russia Invades France!

It is with great sadness that I must announce that France has been invaded by Russia and that I hereby declare the "French design mass launch" a thing of the past. The occupier has decided to implement a "breath of fresh air" and have now initiated the "Russian design mass launch." The unconditional surrender I have signed entitles them to end our beloved competition. On the other hand our new Russian friends do have lots of interesting aircraft designs, so I'm told.... I now present to you the new commander of the event, 7 stars General Krastillon Poutine.

## Labitte Défaite <br> Secrétaire général de la République

For those with no sense of humour this means that there will be a "Russian design mass launch" and NO "French design mass launch" at the Nats in 2012! Be prepared to be dazzled! Capt. Ronny Gosselin, Squadron leader FAC 71

HOW DOES HEDO IT? HE BUILDS THE LIGHTEST MODELS I'VE EVER SEEN.


## Earl Stahl's "GYPSY"

THE FINEST characteristics a model can possess are: ease of construction, a great degree of stability, an efficient high climb, and the ability to soar when the power is exhausted. The "Gypsy" has repeatedly demonstrated that it has these qualities. Our first model of this design was actually flown many hundreds of times. For nearly a year it - was tested in all kinds of weather, and minor changes and readjustments were made until the performance was consistently good. It
 was this model that gained a place for the author on the 1939 United States Wakefield team. At the Wakefield finals, however, the intense heat caused the huge rubber motor to snap when only partially wound. The model was nearly disintegrated by the broken strands of rubber, but Ted Just, who was flying the ship by proxy, managed to repair what remained and made one shore official flight. But that is another story.

Shown in the photos is an improved version of the original model. During the past season it was used in numerous contests with good results. On a recent test flight it soared out of sight.

Because of the "Gypsy's" large size, it has been necessary to make most of the plans one-half scale, so the first job is to make actual size drawings of the fuselage, wing, and tail surfaces. This will be a simple task since it will only be necessary to increase each dimension two times. In reproducing the fuselage, care should be exercised to make the angle of the top of the fuselage exactly right since the wing's correct incidence depends on your accuracy. Draw $1 / 2^{\prime \prime}$ squares on your plan and duplicate the wing and stabilizer tips as well as the rudder.

## FUSELAGE CONSTRUCTION

OUR FUSELAGE is subject to considerable stress and punishment, so much strength without excessive weight is required. Select four hard $1 / 8$ " sq. strips for the longerons, which should be of similar strength and weight. Work directly over the full size plan and make two fuselage sides, one atop the other to insure that they will be identical. It should be noted that the tail piece to which the rudder and stabilizer are attached is made integral with the fuselage and then when the entire structure is completed it can be cut off. Pins placed at frequent intervals will help keep the longerons and cross -pieces in place until the cement has set. Place the two sides in position over the top view and join them with $1 / 8$ " sq. spacers and the three F-4 formers which are cut from $1 / 8$ " sheet. Check continually for correct alignment.

Full size formers are shown on the plan and they are cut from $1 / 8$ " sheet. Cement formers $\mathrm{F}-1$ and $\mathrm{F}-3$ to place and then attach the $3 / 32$ " sq. fairing strips. Short pieces of $3 / 32$ " sq. are cemented between the fairing strips to complete the nose as shown by section F-2. Shaded areas at the front and rear of the fuselage are "filled in" with $1 / 8$ " sheet for added strength, and to provide a place to hold the model while the powerful motor is being wound. Thin aluminum plates are cemented securely to the sheet balsa in the rear; they serve to cradle the hardwood dowel pin which is fitted through the fuselage to hold the rubber motor.

Construction of the landing gear is simple. A single length of $1 / 16$ " diameter music wire is required. Use heavy pliers and bend to the shape and size shown. With strong silk thread bind the landing gear to the fuselage structure and then apply several coats of cement. Wheels are made from laminated $1 / 8$ " sheet of a very hard variety. Cement bearings or washers to the wheels so that they will revolve freely and accurately. Washers soldered to the wire struts will hold the wheels in place.

## WING, TAIL, AND PROPELLER (Note - the section about the folding propeller was left out.)

IF A FULL SIZE plan has been prepared, construction of the wing can be started. It is built in halves. Ribs are cut from soft grade $1 / 16^{\prime \prime}$ sheet. Be very accurate and make them as shown on the plan. Spars are hard balsa and they must fit accurately into the notches in the ribs. The tip outlines are cut from $1 / 8$ " sheet. Work directly over the plan and assemble the various parts using pins to hold them in place until the cement has hardened.

As shown on the plan, the outer section of each wing half is elevated to the extent of 2-1/4 " at the tip. To raise the tip it will be necessary to cut the upper spars at the sixth rib, and to crack the lower ones. Thoroughly re-cement the spars and then join the wing halves so the dihedral at each tip will be $5-3 / 4$ ".

Construction of the stabilizer is practically identical to that of the wing. Nine ribs cut from $1 / 16$ " sheet balsa are required. Taper the $1 / 8^{\prime \prime}$ by $3 / 8^{\prime \prime}$ trailing edge and then cut the tip pieces from $1 / 8^{\prime \prime}$ sheet. Assemble the parts over the plans using hard stock of the correct size for the leading edge and the spars. When dry, remove from the work board and trim and sand to the finished shape.

A thin, streamlined rudder is used. First, make a flat structure using $1 / 8$ " sheet for the outline pieces and $1 / 8$ " sq. for the spar and ribs. When this structure is completed, it is lifted from the plan and $1 / 16^{\prime \prime}$ by $1 / 8^{\prime \prime}$ strips are cemented to the sides of the ribs. The ribs are then cut to a streamline shape and the leading and trailing edges are cut to blend with the ribs.

## COVER, ASSEMBLY, AND FLYING

MUCH OF THE MODEL'S beauty depends on a neat, attractive covering job, so the entire structure should be sanded thoroughly. Cellophane is cemented to the side windows (the windshield is celluloid) and the individual units are covered with tissue, using banana oil for the adhesive. When covering, put adhesive on the extreme outlines of the frames only. If any wrinkles are present, they can be removed more successfully if this procedure is followed. One exception should be noted, however, on the under-surface of the wing the paper should be attached to each rib and spar to preserve the airfoils' shape. Water spray the parts and pin them to a flat surface to prevent warping. The entire model should be given one or two coats of dope.

Assembly of the various parts completes the construction. Attach the wing to the fuselage with a piece of $3 / 16$ " flat rubber. The removable tail piece is held to the body by rubber bands wrapped around the bamboo splints and the dowel. Slip the stabilizer through the slot in the tail piece and cement it fast after checking for correct alignment. The front of the rudder is off-set about $1 / 16$ " so the model will glide to the right.

Use 18 or 20 strands of $3 / 16^{\prime \prime}$ flat, brown rubber, $36^{\prime \prime}$ long for power. The rubber strands should be well lubricated, but the excess lube should be wiped off to keep it from splashing on the covering. Hook one end of the motor to the prop shaft and then bind the shaft with a small piece of rubber to keep the strands in place. Drop the other end of the motor through the fuselage and slip the dowel pin in place to hold the strands.

The degree of success of any flying model is usually determined by the builder's ability to make proper adjustments. Approximate position of the wing is shown, and if the plans were closely followed, the wing and stabilizer angles will be correct. The descent from a hand glide should be long and smooth, but a tendency to dive or stall can be corrected by sliding the wing forward or backward.

For best performance the "Gypsy" should fly and glide in right-hand circles. Confine all adjustments at first to the glide and then once it is good, correct any improper flight attitudes by off-setting the thrust line. If a tendency to mush or stall is apparent, a sliver of balsa between the nose plug and fuselage causing it to pull down, will probably correct it. Right or left thrust, as required, will help make the model circle as desired while under power. Once the adjustments seem satisfactory, cement any correction blocks in place.

Use a mechanical winder for maximum performance. And if the motor is stretched about two and one half times normal length before starting to wind, the rubber strands can safely be wound 800 to 900 turns.

## BILL OF MATERIALS

11 pieces $1 / 8$ " by $1 / 8$ " by 36 " hard balsa for longerons, spars, etc.
6 pieces $3 / 32^{\prime \prime}$ by $3 / 32$ " by 36 " for spars, fuselage fairings
2 pieces $1 / 16^{\prime \prime}$ by $1 / 8$ by 36 " for rudder
2 pieces $1 / 16^{\prime \prime}$ by $1 / 16^{\prime \prime}$ by 36 " for stabilizer spars
1 sheet $1 / 8$ " by 2 " by 36 " for tips, fuselage, "fill-in," etc.
2 pieces $1 / 8$ " by $3 / 8$ " by 36 " for trailing edges
2 sheets $1 / 16^{\prime \prime}$ by 2 " by 36 " for ribs, formers, etc.
1 block 8 " by 2 " by $15 / 8^{\prime \prime}$ for propeller


1 piece 2 " by $3 / 4$ " by $5 / 16$ " for propeller hub
1 length each $.040 ; 1 / 16^{\prime \prime}$ dia. wire $60 \mathrm{ft} .3 / 16^{\prime \prime}$ flat, brown contest rubber
2 sheets, colored tissue, plus dopes, celluloid, cellophane, block for nose,
brass for hinges, etc., etc.

## 2012 Nats Notes

That's right skysters, it's not too soon to start making plans for the FAC's biennial extravaganza in Geneseo. Next July will be here before you know it, and certainly before you've built all the models you'd like to bring.

You've already seen the notice from the Harfang Escadrille announcing the demise of the French Design Mass Launch, and the birth of the new Russian Design Mass Launch. (Page 13) This event should prove to be a lot of fun, if for no other reason, we'll get to hear Bernard's impression of a Russian accent! It will be interesting to see if he finds a different helmet to wear.

The other event in the offing is the Battle of Midway Mass Launch. It was proposed by Don Deloach, and has gotten approval from GHQ. It will incorporate a new twist on the traditional Mass Launch format, with Bouns Points added to the scores. The idea is to encourage participation with some unusual models. Any changes to the list of eligible aircraft and/or tweaks to the rules will be posted in the next exciting issue for the FACN. Make plans to participate in this historic event!


## 70th Anniversary Battle of Midway Event

All basic FAC mass launch rules apply
No wingspan limitation; rubber powered only. 2012 Pilot's Pre-Launch Checklist strictly enforced and combat aircraft must have 3-D armament.

Eligibility: Exclusively for combat aircraft, and reconnaissance aircraft that were engaged by the enemy during the Air Battle of Midway, June 1942. Here is the complete list of eligible aircraft: U.S. NAVY CARRIER BASED: Douglas SBD Dauntless, Douglas TBD-1 Devastator, Grumman F4F Wildcat. US NAVY - SHORE BASED ON MIDWAY: Consolidated PBY-5 and -5A Catalina, Grumman TBF Avenger. U.S. MARINE CORPS - SHORE BASED ON MIDWAY: Douglas SBD Dauntless Dive Bomber, Vought SB2U Vindicator, Grumman F4F Wildcat, Brewster F2A-3. U.S. ARMY AIR CORPS - BASED ON MIDWAY: Martin B-26 Marauder, Boeing B17E Flying Fortress. JAPANESE NAVY - CARRIER BASED: Aichi D3A-1 'Val', Nakajima B5N1 ‘Kate’, Mitsubishi A6M2 ‘Zero'. JAPANESE NAVY - WARSHIP BASED: Kawanishi E7K1 'Alf', Nakajima E8N1 'Dave', Mitsubishi F1M 'Pete', Aichi E13A ‘Jake’. US NAVY - WARSHIP BASED: Curtiss SOC-3 'Seagull". JAPANESE NAVY - ON SEAPLANE TENDERS IN INVASION GROUP FLEET: Mitsubishi A6M2-N 'Rufe', Mitsubishi F1M 'Pete'. If the aircraft is not on the above list it is not eligible for the 2012 FAC Midway event.

WWII Pacific Theater color and marking required. Mid-1942/Midway markings strongly encouraged.

Three rounds minimum, mass launched, timed to the ground by mechanics.

Multi-engine models will be given winding window of 2 minutes per motor.

Bonus seconds awarded as follows on each round (yes!): mid/shoulder wing +5 , Low wing +10 , seaplane/flying boat +10 , biplane +15 , off-centerline twin +25 , four engine +35 .
"Best in Show" Special Awards. One to each: the best Japanese and the best U.S. aircraft (judging during pre-launch inspection).

# 2011 Gathering of the Turkeys 

PENSACOLA, FLORIDA - 8, 9 and 10 October 2011
Sanction \# 11-1837 A Category III National Cup Event
CONTEST DIRECTOR: George White, 5928 Hermitage Drive, Pensacola, FL 32504 Email: White76@cox.net ASSISTANT CD For FAC Events: Lou Cumpston, 1432 Tiger Lake Drive, Gulf Breeze, FL 32563 gardettec@aol.com FLYING SITE: Navy Helo Field Site 8A. Exit Interstate 10 at Exit 5 onto US Highway 90A West. Go 1.7 miles to the south gate. AWARDS: Contest Balsa (First place), Useful tools (Second \& Third Place) ENTRY FEE: PREGISTRATION PRIOR TO 1 OCTOBER: $\$ 20$ flies all events, (If under 19-\$2)

AFTER 1 OCTOBER: $\$ 25$, (Under 19-\$3)

## SPECIAL INFORMATION:

1. Max Flight Times and Fly-off Rules will be contained in a schedule provided to each contestant and will be basically in accord with appropriate rule books and subject to wind conditions.
2. *SAM Commercial Rubber/FAC Old-Time Rubber Cabin will be hand launched. . FAC Eligibility Rules differ from SAM Rules only in that Windshields are required for FAC OTRC. If a FAC eligible model achieves first place, it will be also awarded a Kanone if winner is a member of the FAC.
3. All Model aircraft flown in AMA events must conform to AMA identification requirements.
4. Flight times and name of model will be recorded with the C/D after each flight except for CAT/HL Glider
5. ** One winner will be recognized in this contest for this event, but each class will be reported for Nat'I Cup points.
6. All AMA events are Category III
7. For information please contact web site: www.pensacolafreeflight.org

8 @ These are two special events - see our website - www.pensacolafreeflight.org

## EVENTS LIST \& ENTRY FORM



Release. I the undersigned contestant/parent do hereby release any and all organizations connected with this meet from all claims. I certify that I am the Builder of all models entered and flown by me.





EVENT \#5

## ROCKET/JET

## \# OF ENTRIES=

PIONEER \# OF ENTRIES= 6


EVENT \#8







Event \# 5 canceled due to confusion with Event \#6.
SCALE EVENTS


EVENT \#12
G A MILITARY \# OF ENTRIES=


## MOD MILITARY \# OF ENTRIES=

| REG | FIRST | LAST | PLANE | ENTRY | TIME 1 | TIME 2 | TIME 3 | TOTAL | PLACE | PTS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 19 | DALLAS | CORNELIUS | T-28-D | 1 | 92 | 95 | 99 | 286 | 1 | 35 |
| 54 | WALLY | FARRELL | MIG-15 | 1 | 56 | 106 | 82 | 244 | 2 | 21 |
| 31 | ED | PELATOWSKI | MIG 9 | 1 | 72 | 57 | 75 | 204 | 3 | 7 |
| 52 | JIM | DETAR | GRUMMAN GUARDIAN | 1 | 57 | 117 |  | 174 | 4 |  |

EVENT \#14 L W MIL TRAINER \# OF ENTRIES= 12

| REG | FIRST | LAST | PLANE | ENTRY | TIME 1 | TIME 2 | TIME 3 | TOTAL | PLACE | PTS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51 | GORDON | ROBERTS | PT19 | 1 | 92 | 115 | 111 | 318 | 1 | 60 |
| 75 | TOM | ARNOLD | SHORT SEAMEW | 1 | 67 | 120 | 84 | 271 | 2 | 36 |
| 18 | JEFFERY | RUNNELS | T-28 | 1 | 84 | 120 | 59 | 263 | 3 | 12 |
| 54 | WALLY | FARRELL | MILES MAGISTER | 1 | 79 | 44 | 106 | 229 | 4 |  |

EVENT \#24 DIME SCALE \# OF ENTRIES= 27


## MASS LAUNCH EVENTS

EVENT \#15 THOMPSON \# OF ENTRIES= 14

| REG \# | FIRST | LAST | PLANE | RND 1 | RND 2 | RND 3 | PLACE |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 59 | RICH | WEBER | SIMPLEX RACER | 86 | 93 | 125 | $\mathbf{1}$ |
| 52 | JIM | DETAR | ALTAIR | 71 | 89 | 110 | $\mathbf{2}$ |
| 54 | WALLY | FARRELL | MR MULLIGAN | 78 | 97 | 75 | $\mathbf{3}$ |
| 37 | RICHARD | ZAPF | ALLENBAUGH MODEL A | 62 | 69 | 72 | $\mathbf{4}$ |

EVENT \#16 GREVE \# OF ENTRIES= 26

| REG \# | FIRST | LAST | PLANE | RND 1 | RND 2 | RND 3 | PLACE |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 8 | Jerry | Crawmer | CHAMBERMAID | 200 | 103 | 158 | $\mathbf{1}$ |
| $\mathbf{1 3 0}$ |  |  |  |  |  |  |  |
| 54 | WALLY | FARRELL | MR SMOOTHIE | 135 | 104 | 140 | $\mathbf{2}$ |
| 52 | JIM | DETAR | MISS LOS ANGELES | 67 | 103 | 81 | $\mathbf{3}$ |
| 31 | ED | PELATOWSKI | FOLKERTS SK-2 | 80 | 102 | 25 | $\mathbf{4}$ |

EVENT \#20 GOODYEAR \# OF ENTRIES= 10

| REG \# | FIRST | LAST | PLANE | RND 1 | RND 2 | RND 3 | PLACE | PTS |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 37 | RICHARD | ZAPF | HUTCHENSON WLH-1 | 79 | 114 | 75 | $\mathbf{1}$ | $\mathbf{5 0}$ |
| 34 | RICHARD | GORMAN | SONERAI | 64 | 109 | 64 | $\mathbf{2}$ | $\mathbf{3 0}$ |
| 19 | Dallas | Cornelius | Long LA1 | 46 | 68 | 51 | $\mathbf{3}$ | $\mathbf{1 0}$ |
| 59 | RICH | WEBER | LEIGHNOR SPECIAL | 71 | 89 | 0 | $\mathbf{4}$ |  |



EVENT \#22 WW II \# OF ENTRIES= 31

| REG \# | FIRST | LAST | PLANE | RND 1 | RND 2 | RND 3 | PLACE | PTS |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 37 | RICHARD | ZAPF | HE 112 | 59 | 78 | 92 | $\mathbf{1}$ | $\mathbf{1 5 5}$ |
| 97 | PAUL | STOTT | FIAT G55 | 66 | 70 | 90 | $\mathbf{2}$ | $\mathbf{9 3}$ |
| 50 | ANDREW | RICCI | FAIREY BARRACUDA | 114 | 123 | 88 | $\mathbf{3}$ | $\mathbf{3 1}$ |
| 34 | RICHARD | GORMAN | YAK 3 | 97 | 100 | 84 | $\mathbf{4}$ |  |

GRAND CHAMP FAC NON-NATS 2011

| REG \# | FIRST | LAST | FACTOR | PLACE | PTS |
| ---: | ---: | ---: | :---: | :---: | :---: |
| 37 | RICHARD | ZAPF | YES | $\mathbf{1}$ | $\mathbf{3 9 2}$ |
| 59 | RICH | WEBER | YES | $\mathbf{2}$ | $\mathbf{3 2 2}$ |
| 15 | TOM | NALLEN II | YES | $\mathbf{3}$ | $\mathbf{3 1 8}$ |
| 25 | DON | SRULL | YES | $\mathbf{4}$ | $\mathbf{2 3 4}$ |



SCORING 5-3-1 TIMES THE NUMBER OF ENTRIES IN THE EVENT.

We had 100 people register, but with no-shows there were 96 actual contestants on the field.
Tom Nallen II was the Winner of the Maxecuter Master Scale Award for the highest combined scale and flight time with out considering bonus points for his Baby Jodel.
TOTF NON-SCALE EVENTS



## GRANT ON LATERAL STABILITY Part 1

This is the first in a series of articles abstracting information concerning Stability from the 1941 book "Model Airplane Design and Theory of Flight," written by the famous Charles Hampson Grant. Let the reader understand that I'm going to be liberally using Grant's exact words and illustrations, condensing them, and for ease of reading the constant use of quotation marks is omitted.
by George

Kinds of Stability. This is surely well known, but I'll use Grant's diagram to help define his terms.


In the first place, stability is defined as the capacity of an airplane to overcome any tendency to displace or turn from normal flight - or to return to normal flight after displacement.

Critical to achieving stability in a model is the establishment of the center of gravity (c.g.). Many of us simply stick a couple of fingers under the wings and balance the model. That may more or less get the fore and aft location of the c.g., but many of us have no idea where the c.g. is above or below the wing. He proposes tying a string around the wing and suspending the model from a second string, moving it back and forth until the model is balanced.

That establi

shes the fore and aft c.g. location and he recommends a mark on
the fuselage. Then suspend the model from the tail and find the actual location of the c.g. by continuing the line from the tail until it crosses the line you made from above the wing.

In his book Grant also provides a method for calculating the c.g. based upon weights and moments. That is the method used to calculate the c.g. of full scale aircraft, but is beyond the scope of this article.

As can be seen from the diagram above, there are three kinds of stability to deal with, i.e. Longitudinal stability which refers to the maintenance of normal flight about axis, L-L1. Directional stability which refers to the maintenance of normal flight about the vertical axis, V-V1. Lateral stability which refers to the maintenance of normal flight about the axis running through the center of gravity on axis N-N1.

This first article on the subject will deal solely with lateral stability.

Grant states that the factors contributing to lateral stability of a model include low center of gravity, sweepback of wing, and dihedral angle. Also, a combination of low center of gravity with either of the other two.


Low Center of Gravity. As seen in the diagram above, the lower the center of gravity relative to the center of lift (L), the greater the rotational force acting to correct any upset. This is relatively easy to accomplish with a high wing model. However, in many low-wing models the center of gravity gets very close to the center of lift, necessitating additional means of obtaining lateral stability. Low c.g. increases stability without loss
of efficiency, and should be used in conjunction with sweepback or dihedral.

Sweepback Wing. The sweepback wing may be either constant chord or tapered - the sweepback angle on a tapered wing should be measured by a line equal to $1 / 3$ the wing chord. He says that sweepback might vary between $10^{\circ}$ and $30^{\circ}$, where $20^{\circ}$ is average with a model with a high c.g. He defines a high c.g. as when the thrust line is close to the wing center section, and a low c.g when the c.g. is $6 / 100$ or more of the wing span below the sweepback wing. With a c.g. being that much below the wing, only $10^{\circ}$ sweepback is required and the spinning tendency is reduced. In addition to the method described above for determining the height of a c.g., an accurate check can be made of how high or low the c.g. is by balancing the model on its side, shifting the support point until the point of balance (the c.g.) is found.

Grant's proposal of sweepback to add lateral stability may at first be somewhat difficult to comprehend when he states that a sweepback wing is less efficient than a straight wing and also has a tendency to cause spinning. Insofar as a sweepback wing is less efficient, it should be obvious that in straight flight the air over the wing not only strikes the wing at an angle but also there is less wing presented to that air than would be the case for a straight wing of the same span. The tendency to spin requires further explanation.


When the model becomes unbalanced laterally, it sideslips due to the force of gravity, at the same time it tries to move forward (J) due to propeller thrust. As a result, the airplane actually moves in a direction M . Consequently, air is moving against the
wing in the direction of the arrows shown in the broken lines. The volume of air striking the low wing has a width equal to the length of line U , whereas the volume of air striking the upper wing is equal to the length of the line S . The volume of air striking the lower wing produces greater lift, not only because of its volume, but also because it is striking that portion of the wing squarely. The top wing is spilling much of the lower volume of air flowing over it. Thus, the greater the sweepback, the wider the air stream $U$ compared to $S$, providing a stronger righting action.

The downside of the sweepback wing is the spinning tendency. That greater volume of air over the lower wing not only produces lift, but also drag, tending to shove the lower wing aft. That, combined with the center of weight forward of the vertical axis and propeller thrust at the nose, pulls forward at the center of the entire span. A sharp rotating couple is created, tending to spin the ship counter clockwise about the vertical axis. My aero engineer son comments that " Too much sweep and you loose the benefit to other bad low speed effects. Sweepback by itself for low speed model aircraft is a relatively weak lateral stability factor and so should be combined with dihedral and low CG or not used at all."

Dihedral Angle. Grant states that the best corrective action is through the application of dihedral alone or in combination with low c.g. or sweepback. Dihedral is the most efficient and practical method for securing lateral stability because it rights a banked plane without appreciable tendency to spin it. However he cautions that the less dihedral used to obtain the desired stability, the more efficient the wing. The theory behind the action of dihedral is illustrated below. In that illustration, which also includes information showing the effects of low c.g., the plane is banked and sideslipping in the direction of arrow M . The model here is also crabbing in the direction of arrow $M$ in the sweepback wing illustration above as a result of propeller thrust, but with dihedral, air is also striking the the wing from the side as well as from the front. Arrows F indicate how this side draft (considerably exagerated here) strikes the dihedral of the lower wing. On the other hand, the higher wing spills the air as indicated by arrow E, decreasing its lift. There is also a blanking effect of the lower wing on the uplifted wing, something which is more pronounced on a low wing aircraft.

Interestingly, whether or not the center portion of the wing is horizontal with no dihedral is immaterial. The dihedral action provided by the upturned outer portion of the wing provides the same action as given here. In fact, the tips can be vertical and have a stabilizing effect, and by reducing wing end spill, can increase lift.

How much dihedral should a wing have to ensure proper performance? The following table provides the recommended wing tip
elevation per foot of span for differing values of the c.g. below to the center of lift. Determination of the center of lift is illustrated in the diagram at the bottom of the page. Distances referred to in the table are represented by distance $S$ in that diagram.


Distance from center of Wing tip elevation gravity to center of lift per foot of span

| $0 \%$ or minus | $11 / 2 "$ |
| :--- | :--- |
| $21 / 2 \%$ of span | $11 / 4 "$ |
| $5 \%$ of span | $1 "$ |
| $71 / 2 \%$ of span | $3 / 4 "$ |
| $10 \%$ of span | $1 / 2 "$ |
| $12 \%$ of span | $3 / 8 "$ |

For the mathematically inclined, should you wish to determine the proper tip elevation for a wing which has a flat center section, Grant offers the following formula:
Multiply the above values by $1+4$ (S-2X / 2 S ) 2 where:
$S=$ total wing span and $X=$ that part of the wing in inches which has no dihedral angle.

For a biplane, when the c.g. is at or above the halfway point between the wings, one inch of tip elevation per each foot of span is recommended.

To be continued...

## The RAF

and 33 Squadron

Matt King

When I was a kid (many years ago) it was my good fortune to know a fellow named John Hatch from Rhinebeck. He taught in the Arlington school district and had a model flying club that would meet once a month at the Arlington elementary gym. He encouraged me to build and fly FF model airplanes. Not that my dad, my uncle Bill, and living next to the Old Rhinebeck Aerodrome wasn't encouragement enough. My Eastbourne monoplane and Piper Vagabond did really well in the contest at year's end. It was fun.


I had long wanted to have a model airplane club at the high school in Red Hook, NY where I teach Technology education. Having a good size family, I found myself getting involved in extracurricular activities and night school tutoring. Coaching football and baseball for 20 years just made it too difficult to establish said club. With the end of my kids athletic endeavors and an empty nest, I now had time to devote to FF models and a club.

We've had the Raiders Aeromodelers Flying club (RAF) for a few years now. The RAF meets every week that school is in session and we build, fly, or both depending on weather, ballgames on the flying field, and availability of the gym. The three (of eight) really active fellows in the RAF built 6 models and then got in some good flying time in this Spring.

These three boys also came in to my lab to work at after school on non-meeting days just to build. They just love to build I guess. We know what that's all about don't we?

I joined the FAC (finally) and with the lab here at school started having monthly get-togethers (building/flying sessions) for the 33 Squadron, 6 pm to 11 . I felt that the building/flying sessions would be perfect for the students. The students meet with us.

The five gents of the Old Rhinebeck Squadron have been mentoring the students this year and this effort has paid great dividends. Tom Polapink, Ken Cassens, Stew Sommerville, Bob Bard, and Kevin Mooney are those involved in our B/F sessions. Bob recently joined the FAC too and Kevin (FAC member) comes from Troy to meet with us. We flew our No-Cals out in the parking lot one night under the lights. We flew one night in the back fields using the illumination of the soccer game lights. The guys have had a good time teaching and mentoring the students as well as getting some dedicated hobby time.


One thing we of the $33^{\text {rd }}$ Squadron felt we should do this year was to sponsor three of the boys by paying their first year of membership to the FAC. They've seen the newsletter and we talk up the FAC and they in turn are excited. They like the copies of plans and info that I give them each week that I have gotten from the FAC newsletter. They have their own archives now...and so it goes.

Matt has been the RAF president for three
years and has one more year left. He's built a couple of Wright Flyers (one for experimentation), a No-Cal P-51 that flys great, and Dumas Zero (flys better than most low-wingers I build). Finally, he made a NoCal autogiro (concept model) and a stick and tissue one with gears for lift and thrust for the latest Cole Palen Memorial Model Meet.


Luis has built 5 models in the past year or so (2 Sig Tigers, Wright Flyer, a Guillows Cub and C180). One Tiger gets great time and the C180 was nearly done at school's end in June. Best of all, his skills have improved before our eyes.

Jeremy has finished No-Cal Corsair with printed paper for a classy finish, on the board he has a SNCAP 200 from plans by S. Greibling, CFFS, 2009 newsletter. He has a $1 / 6$ scale C150 to finish yet and likes to fly small r/c stuff in the gym. We turn half the lights off to enjoy the LEDs on the plane. Cool beans! Jeremy is already an AMA member too.

Last year Matt participated in the Cole Palen Memorial Model meet and won the Sir Percy Goodfellow award for sportsmanship for his helping younger kids present to get some simple Sleek Streaks flying. So isn't this the idea? How pleased I was. This year he won the taxi contest and did it in such an analytical way that all were amazed.

It has been a pleasure working with these young fellows for the last few years. We lost Luis to graduation, but he knows he can come back any day the RAF meets to build and fly. The fun part for me is that one part of my Transportation Classes is to have

## FAC Contest Calendar

Cloudbuster Fred Greg, aka Loopy, is the official FAC Contest Calendar Coordinator. He'll be your contact man for all contest announcements. You can reach him here: Fred Gregg 13701 Provincial Dr Sterling Heights, MI, 48313-2018 PH 586.884.6919 loopy.cbfac@yahoo.com Please help to make this a useful resource for our members! Send in your contest info!

| Muncie | IN | Sept 8-9 | 2011 Outdoor Champs | CD - Ralph Kuenz | rdkuenz@yahoo.com |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Elyria | OH | Sept 18 | Cleveland Free Flight Society | Jim Gaffney | loopy.cbfac@yahoo.com | jamesfgaffney@hotmail.com

## RAF \& 33 Squadron

Continued
the kids build and fly Wright Flyers as projects. I hope that this keeps the flow going to the RAF and then the FAC. We've been inspired by Ronny, Berny, Octavian, and all the Harfang Escadrille boys, and so our meetings are just lots of fun. At the FAC meetings the kids like meeting with these older than mid-dle-aged guys. Amazing!

We look around and see many more octogenarians than us less-experienced fellows in our beloved hobby, and hail them for what they taught us and their desire to carry on. (We know they never grew up really.) John Hatch all those years ago got
kids involved in this great hobby. I know I am in a great spot and it's easier for me to bring this hobby to kids. I hope to be able to continue, as I may not be able to retire even when the time comes. Do what you can to keep this hobby alive and well, no matter what your situation. Maybe sponsoring some young modelers is just what they need. Good luck and keep'em flying!

BP QUIZ answer - Most people would call this a mid wing model because the top of the airfoil is above the center datum line. 5 points It would also qualify for 15 more points because of it's unorthodox configuration. Asymmetry has its advantages! Grand total-20 BPs


Images from Geneseo 2011
Top L: Bernard Dion's
Swordfish cruising away.
R: The CinC doing something that he hasn't done in many years at Geneseo!

Middle L: Tom Nallen II with his victorious AR-1.

R: A beautiful Messerschmitt M. 29 Jumbo by Doug Beardsworth.

Below: Ross Mayo caught some of the magic in the evening fun flying sessions as Clive Gamble prepares to launch his twin pusher.


Club
9154 Eldorado Trail

Above: A familiar scene to those who attended the FAC Non Nats. CD Dave Mitchell worked overtime to insure that the contest ran smoothly. He and his crew of Maxecutors not only did an outstanding job organizing the scale judging and field activities, but also implemented a new computer based system for tabulating the results. Bob Clemens photo

Below: The Raiders Aeromodelers Flying club (RAF) and members of FAC Squadron 33 show off their models in one of the best places in the world for a model club meeting. Left to right: Tom, Jeremy, Luis, Matt, Matt, Stew and Bob. Story on page 20.




BUILD A "GYPSY" OUTDOOR CRAFT-Plate 3


BUILD A "GYPSY" OUTDOOR CRAFT-Plate 4


BUILD A "GYPSY" OUTDOOR CRAF"-_Plate 1


UUILD A "GYPSY" OUTDOOR CRAFT-_Plate 2


