



Flypaper

The *Flypaper* is a monthly publication of
The Fox Valley Aero Club

An Illinois not-for-profit Corporation

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AMA Gold Leader Club



Academy of Model
Aeronautics Charter
Club #252

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**Dave Murray's Composite
ARF Eurosport Evolution
just about to lift off.**

Dale Gathman photo



PRESIDENT'S MESSAGE

Tom Spriet-president@foxvalleyaero.com

It's April!!

Has anyone seen "they"? Well *they* said "we were going to have a terrible winter." I want to shake his or her hand and thank them for their very inaccurate forecast. Possibly someone moved Illinois to Denver and I didn't get the memo? Whatever, however, we are all grateful for the fantastic record-setting winter we have enjoyed. Just like the grass and trees have started an early year, so have the members of FVAC.

It has started out being a busy spring at the field. Many of the big birds have been out getting in extra time practicing those IMAC maneuvers. Even our treasurer, who isn't seen at the field until May, was actually flying in March. Yes, record breaking indeed. With the smell of fresh cut grass in the air I think it's safe to say that flying season is here.

Next weekend is the Weak Signals show in Toledo. If you are on the fence about going—it is a great time—so make it happen. Last year was my first trip and considering there is so much to see Karol and I are making a return trip.

With building season almost behind us the pressure is on to finish up that masterpiece, get those batteries cycled, and prepare for a great season.

Hey folks, last weekend there was a mid-air at the field. This event opens up thoughts and ideas regarding safe operations that are long overdue for discussion. Our next meeting will be partly devoted to discussing safety procedures that should be observed so all have safe and fun-filled experiences at our field.

Hope to see you at the meeting, if not before, at our fantastic flying field.

Tom Spriet

Show us your stuff

What have you been working on? We want to see it! Bring in your latest masterpiece—kit or ARF—to one of the upcoming meetings. Tell us about the equipment installed, any modifications made, obstacles overcome. No matter how big or how small, simple or complex—lets see it!



If helicopters are so safe, how come there are no vintage / classic helicopter fly-ins?



Thunder Tiger E325v2 FBL 450 EP w/Motor/ESC/CF Blades (4716-K11)

TOLEDO 2012!

April 13th, 14th, & 15th

At the SeaGate Centre

401 Jefferson Avenue Toledo, Ohio 43604

Show hours: Fri/Sat 9am to 5pm - Sun 9am to 2pm

Admission is only \$10.00 per person per day

Kids 12 and under are FREE!

Active duty U.S. Military are free, ID card required, no ticket necessary!



VICE PRESIDENT'S MESSAGE

John Turner
vicepresident@foxvalleyaero.com

The unusual warm weather in March has been a blessing for many of us who have enjoyed flying at the field versus building. Many projects are still being finalized on the workbench, but what the heck, anytime it is above 80 degrees in March who wouldn't want to fly?

I have had the opportunity to observe various patterns during take offs and landings with our members and guests. Once airborne, there seems to be a "loss of direction" of the right/left-hand patterns that could jeopardize safety and produce potential mid-air! Many factors have the potential to impact the flight pattern from wind direction changes, overhead sun and glare, a crowded taxiway or other distractions from the pits. As we taxi our models and prepare to take off, one needs to be aware of the other models in the pattern airspace and be aware of approaching takeoffs and landings.

In the center of the taxiway is a sign that signals "direction of pattern". This information is vital for both novice and advanced modelers for maintaining the correct pattern. Simply, watch the wind sock and notice the signal for the flight pattern. If it is wrong, simply talk to other members to make the adjustment and communicate to the pilots. Too many times, the sign is wrong due weather conditions or no one has acknowledged the standard pattern that is being flown.

Another good safety rule is to have one of your fellow members or guests be your spotter! This offers confidence to the pilot for knowing aircraft positions at all times. Be a good advocate and let's make sure the flight pattern is followed for both safety and fun!

Finally, be sure to mark your calendar for April 21st as this is our annual "clean up" day at the FVAC and the start of our 2012 flying season ahead!

Fly safe! JT



FROM THE EDITOR

Doug Swanson
newsletter@foxvalleyaero.com

I hope you enjoyed the little April Fool prank from earlier in the week. I had a lot of fun putting those two pages together. I'm sure if opened up to the membership, there would have been some hilarious fake headlines, but I wanted to keep it a surprise for all. If anyone really wants a how-to on making a bead bracelet, my wife, Laurie, could make that happen. Also, if there's enough interest in a meeting at Chuck E. Cheese's, we can put that together as

well—skee ball tournament?

Thanks to the contributors this month! Steve Gawlik has provided some photos of his B-17 build, which start on page 5. Dale Gathman's "Shots from the Field" start on page 8. In this month's "Meet the Members (page 11), we talk with Rob Sampson. Thanks, Rob, for taking the time to share with us! Rusty Dose, Classic Pattern CD, has submitted a few articles relating to the Classic Pattern event on May 26 & 27—the articles start on page 21.

I'm keeping it short this month. Hope to see you at the field soon!
Doug

April 12 April 21	FVAC Member Meeting Member Work Day	6:30 Board 7:30 Regular at Township Hall 8:00 AM at FVAC Field
May 10 May 26 & 27	FVAC Member Meeting Classic Pattern Contest	6:30 Board 7:30 Regular at Township Hall FVAC Field
June 2 & 3 June 14 June 9 June 10 June 15 & 16 June 24	FVAC Pattern Contest FVAC Member Meeting Kids Day Fun-Fly & Pig Roast AI's Helicopter Fun-Fly Geneva Swedish Days Parade	FVAC Field 6:30 Board 7:30 Regular at FVAC Field 9:00 AM start, 1:00 PM second round Flying starts at dawn, Pig ready at 2:30 FVAC Field Meet at 10:00 (loc. TBD), parade at 1:00
July 12 July 21 & 22	FVAC Member Meeting Festival of Flight	6:30 Board 7:30 Regular at FVAC Field FVAC Field
August 4 & 5 August 9	Chicagoland IMAC Challenge FVAC Member Meeting	FVAC Field 6:30 Board 7:30 Regular at FVAC Field
September 13	FVAC Member Meeting	6:30 Board 7:30 Regular at Township Hall
October 11 October 21	FVAC Member Meeting Fun-Fly & Turkey Fry	6:30 Board 7:30 Regular at Township Hall 10:00 AM FVAC Field
November 8	FVAC Member Meeting	6:30 Board 7:30 Regular at Township Hall
December 7	Annual Christmas Party	Hilton Garden Inn

Blade 300 X BNF
by BLADE
(BLH4580)



Past Events of 2012

January 1 First to Fly Fun Fly
February 25 FVAC Annual SWAP

B-17

A BUILD BY STEVE GAWLIK

I have attached some photo's of the B-17. As you can see I am making some progress. Since everyone asks me about it, I thought I should at least prove I really am working on it. I started construction in October 2003, but with work and flying it has dragged on. I hope to have it done this year.

It was built from Don Smith plans. American Kit Cutters cut 2 kits for us. Armin Weber has the other mostly framed up. We got a deal on 8-G23's from Horizon and I used my Dave Patrick Cub to break them in. -Steve



SPECIFICATIONS:

PLANS: DON SMITH
KIT: AMERICAN KIT CUTTERS
WING SPAN: 144 IN.
ENGINES: 4-ZENOAH G23S
RETRACTS: ROBERT
NUMBER OF SERVOS: 12
CURRENT TOTAL WEIGHT:
40 LBS. (WITHOUT PAINT AND RADIO)
READY TO FLY WEIGHT:
SHOULD BE WELL UNDER 50 LBS.
BUILD TIME TO DATE: 180 HOURS





B-17





TREASURER'S REPORT

Paul Jacobs—treasurer@foxvalleyaero.com

Can you believe this weather? It's only March and even I have several good flying days in at the field. Let's hope it stays good until November this year. On the treasury side, things are still looking good as most members have paid their club dues and I will now start to contact the stragglers. I have already sent a reminder to those that have not paid their AMA dues that they are prohibited from flying until they have the insurance. Remember to post your AMA card in the frequency box even if you are using 2.4 GHz.

Our maintenance chief Greg Bohler should have his budget request in for the next meeting but I am not looking for any surprises here so we should have smooth sailing for this year.

Our next event this year is the club's work day scheduled for April 21 due to a late "Toledo" show. I can think of a dozen members that will probably join the party in Toledo but if you haven't been there before, I highly recommend you attend.

Planning for the Festival of Flight continues and we will discuss it further at this month's Board meeting. Our *Flypaper* editor Doug Swanson is putting together this year's flyer for handout at the hobby shops and distribution to clubs within 100 miles of our field. If you would like to help with the Festival this year drop me an e-mail with your intentions as more hands are always welcome.

For the newer members I should mention that Karl Griesbaum handles the clothing orders for the club's yellow shirts and FVAC hats so if you would like to have them for the events, see Karl at the meeting to place your order.

See you on the flight line...

Paul

**Fox Valley Aero Club
presents...**

Radio Control

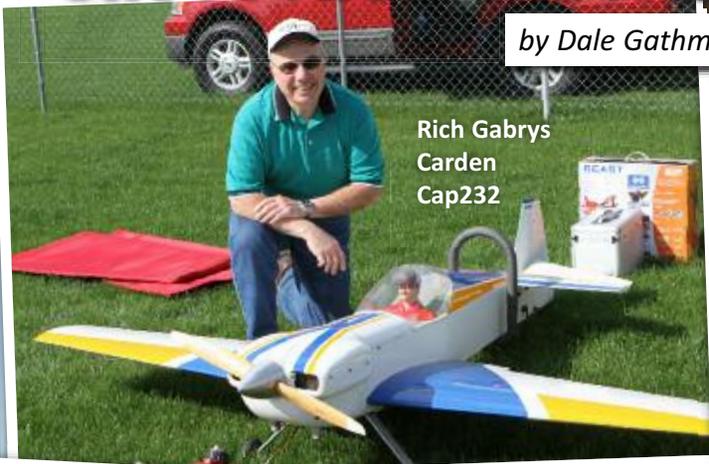
**FESTIVAL
OF FLIGHT**

July 21 & 22

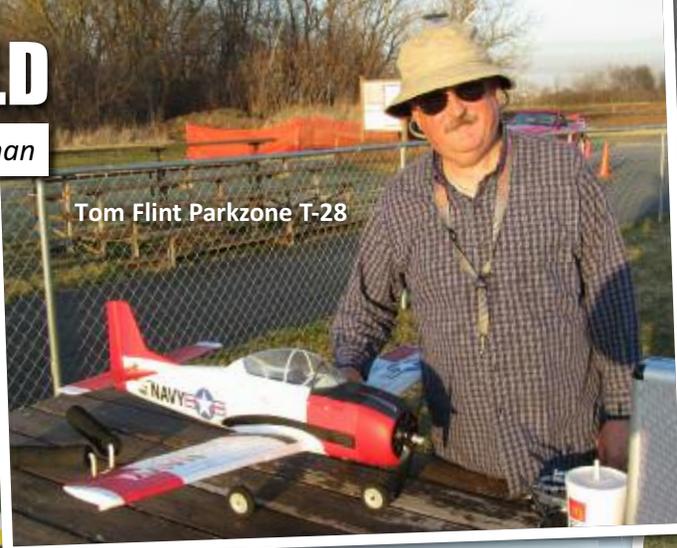


SHOTS FROM THE FIELD

by Dale Gathman



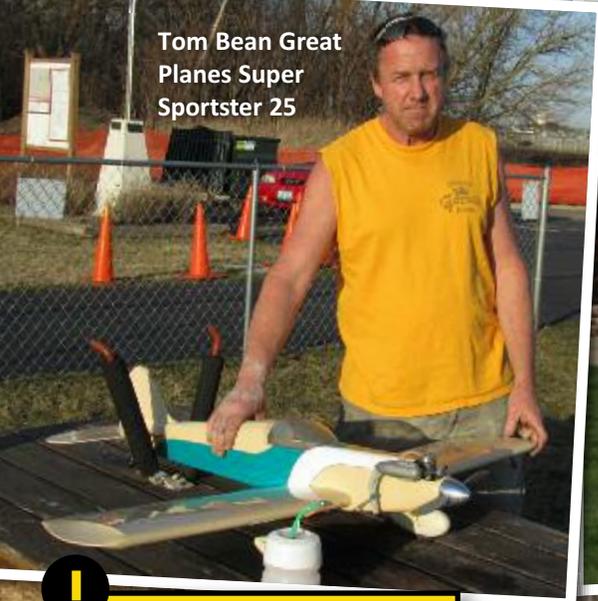
Rich Gabrys
Capden
Cap232



Tom Flint Parkzone T-28



Bill Sponsler Widebody 60



Tom Bean Great
Planes Super
Sportster 25



Kevin Kessler
Cap21



Oliver Olea Parkzone T-28



Tip from the field: These spring months can bring high winds to the field. Dale Gathman has reported several occasions of planes being flipped off of the benches while unattended. It's a good idea to have your plane secured on the ground between flights and placed on the bench only when you are starting it.



Matt Brustle, Morris Hobbies Su-Du-Khoi



Tom Siwek Hangar 9 Twist 40



Dale Gathman EFlite
Hawker Hurricane 25E



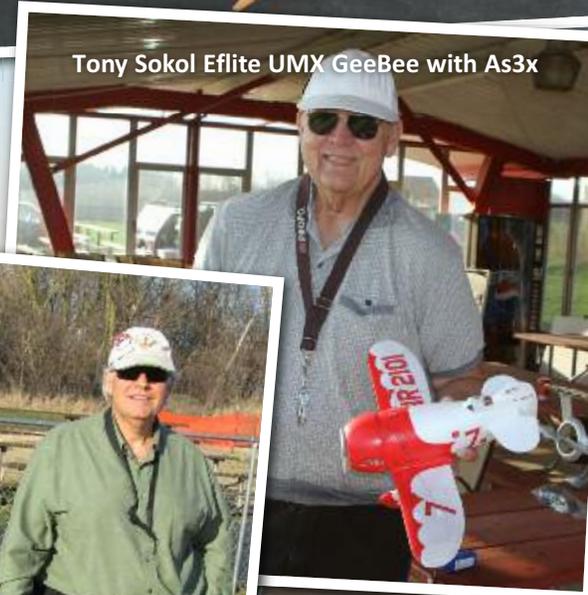
Phil Young Hangar9
Ultra Stick Lite



Prospective
member Adam
Falk Extreme
Flight Extra 300



Danny Vancura
ParkZone Extra 300



Tony Sokol Eflite UMX GeeBee with As3x



Dan Rocha
Composite Extra 260

by Dale Gathman



Sal Perno Nitro
A6M3 Zero



Mike Kosteki
Eflite Beaver
DHC2



Ron Kostus
Great Planes
Ultimate
10-300



John Turner Great
Planes Revolution

SHOTS FROM THE FIELD

RC PILOT

MAGAZINE

BIG JETS IN FLORIDA

SIG AND IT'S KADET
PAST THEIR TIME OR RETRO PRIME?

THE JET-POWERED GENIUS OF BOB WILCOX



PLANE OLD PASSION
AN EXCLUSIVE WITH COLONEL ROBERT E. THACKER

TECH TALK:

GRAUPNER'S NEW HoTT mx-12 RADIO SYSTEM

Did you happen to see the cover of the April issue of *RC Pilot*? That's FVAC's Greg Wright along with his BVM F-100D. You may have seen this jet in action at the Festival of Flight last year. Though at that time it was still naked and unfinished. Specs. are as follows: Span: 69"; weight: 35 lbs.; JetCat P120 SX, 30lbs thrust; BVM retracts. Guidance is provided by a JR12X DSMX radio, 1222 DSMX receiver, and JR High voltage servos—8911's on the surfaces and 378's on the slats. It has working leading edge slats, flaps, speed board, ailerons, elevators, rudder, and nose wheel steering. There's also a JR 370 gyro on the rudder.

RC Pilot is a digital-only magazine available for iPad, Android, or download to a computer. Check it out at: www.rcpilot.com

Event Reporters Wanted!

Want to get more involved in the club? The *Flypaper* is looking for volunteers to cover our major events. Take it as far as you want—take photos, interview the pilots, learn about the aircraft, write a report—let those of us who couldn't be there feel like we were! If you are interested, please send an e-mail to newsletter@foxvalleyaero.com



Always try to keep the number of landings you make equal the number of take-offs you've made.

Get your trainers ready! We'll need trainers and pilots, spotters, demo pilots, and helpers!
June 9th - Please save the date!

KIDS FLY

MEET the members

Rob Sampson

FlyP.: How long have you been involved in the hobby?

Rob: My Uncle Walt bought me a Cox .049 powered PT-19 for Christmas about 50 years ago. In the years that followed I built many U-controlled planes, both kits and my own designs. I attended the University of Illinois in Champaign and bought my first roll of MonoKote in about 1970 from a small upstart company in Champaign called Tower Hobbies.

FlyP.: How long have you been a member of FVAC?

Rob: My primary hobby for many years was competing in Triathlons, swim/bike/run, all distances including Ironman. In 2002 I injured my knee and required surgery. My wife Sharon, a nurse, strongly recommended that I find a new hobby to save my body. I mentioned that I planned on building and flying RC planes when I retired. She said, "why not now?" The seed was planted. I joined FVAC .

FlyP.: Are you involved with full-scale aviation? If so, please elaborate.

Rob: In college I started studying Aeronautical Engineering. I soon switched to the Aviation Maintenance and Flight curriculum earning my A & P licenses and pilot certificates. After completing the program I became a flight instructor at the U of I Institute of Aviation while working on a Marketing degree.

While in Champaign I was fortunate to work at Frasca Aviation building flight simulators, getting experience in a well-equipped machine shop, doing final assembly and flight testing simulators. I also worked on Rudy Frasca's aircraft, my favorite one being the F4F Wildcat.

I worked 2 summers as a mechanic for Bill Ross at DuPage Airport. Bill had a P-38 Lightning, Mk XVI Spitfire, F6F Hellcat and Grumman G32-A biplane, which is a 2 place F3F, one of 2 built by Grumman. The last remaining one is the "Gulphawk" hanging in the Smithsonian.



Young Rob helping Joe Frasca test a fuel pump installation



Rob in the front office of an MD-80 just before retirement

08/24/2011



Formation flying to an airshow. Rob was along side in a Cessna 190.

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One of two G32-A's built by Grumman.

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FlyP.: Are you forced to work to pay for this hobby? If so, what is your occupation?

Rob: I was hired by Ozark Air Lines in 1977, they were bought by TWA in 1986, which in turn was bought by American in 2001. I retired in November 2011, after 34 years. I mostly flew and instructed in DC-9/MD-80 aircraft with one year flying B-747 to Europe while with TWA.



FlyP.: Are you married? Have any children?

Rob: I have been married to Sharon, my high school sweetheart, for 37 years. We have a son and daughter, both married, and 5 grandchildren. Yes, I have had the oldest grandson on the buddy box.

FlyP.: What are you flying currently?

Rob: I have about 20 airplanes ready to fly, a good mix of 2 cycle, 4 cycle, gas and electric. I think my favorite would be my DA-50 powered Extra 260 by Hanger 9. I also usually bring my HABU and the latest addition to the fleet, a Radian Pro glider, which is a fun change of pace.



Bill Ross' P-38

FlyP.: Do you have any current or planned aircraft projects?

Rob: I am currently working on building my own design for a spare HABU fan unit I have, but at the rate things are going I think it won't get finished until next year's building season.

FlyP.: What is/was your favorite model aircraft?

Rob: It is hard to pick a favorite model aircraft, but the one that served me well for many years of Fun Fly events, etc. was my first RC kit, a SIG Something Extra.

FlyP.: What is your favorite full-scale aircraft?

Rob: As far as full-scale aircraft, I am mostly interested in older models, WWI, WWII, and the great Cleveland Air Race planes from the 1930's. I think that the 747 is the most magnificent modern aircraft design. There was something real cool about walking up a spiral staircase to get to the cockpit, I wish I could have flown it more.

FlyP.: Is there a dream project for you in radio control?

Rob: My dream RC project would be a large gas powered Hughes H-1 racer from a kit or plans, not an ARF.

FlyP.: Is there anyone that you look up to in the radio control hobby?

Rob: There are so many amazing people involved in this hobby, both in our club and on the national/world level. I appreciate both the great builders and the flyers. I am so impressed on how they are all so eager to help those of us not so great to get better, learn and enjoy the hobby.



Rob worked on Bob Hoover's P-51 when it was dropped off at DuPage airport with some problems.

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FlyP.: Are there any facets of the hobby that you would like to try? (eg. a certain power system type, different type of aircraft, competitive flying)

Rob: I would like to get better at flying helicopters and someday enter an IMAC competition.

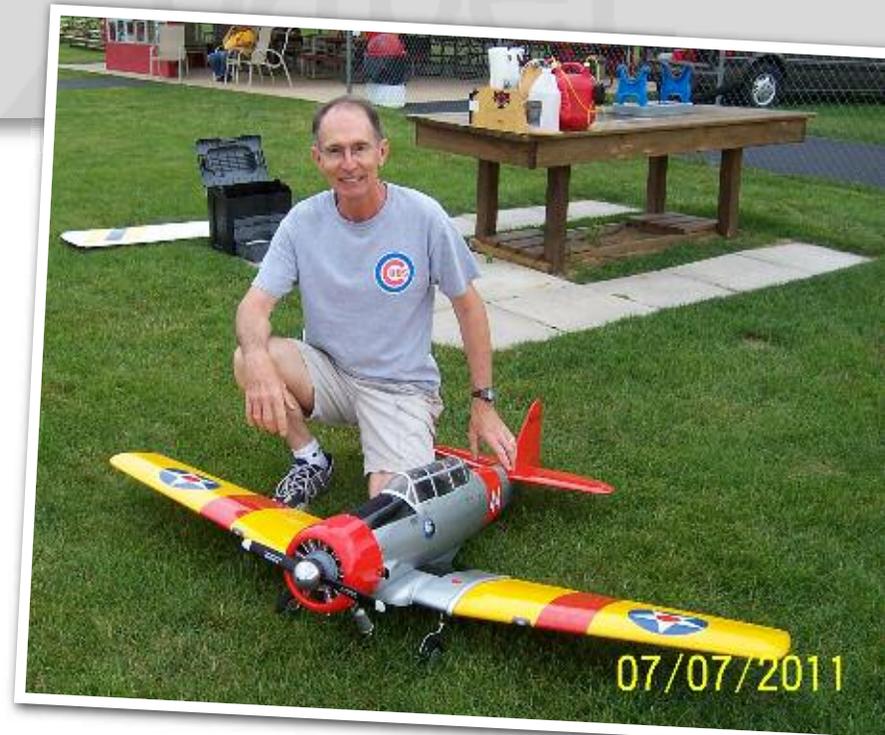
FlyP.: Are there any embarrassing moments at the field you would like to forget--but are now remembering because I asked?

Rob: I remember an embarrassing Limbo contest. I was concentrating so hard on staying low that I forgot to stay on the

centerline. I chopped off the left wing of my Something Extra when I hit the pole holding the ribbon. What makes this memorable is that Dominic Saverino said that he had a spare left wing in his garage. He went home, brought me the wing and I was back in the air the next day, one red wing and one green wing.

FlyP.: What are your interests beyond model aircraft?

Rob: Sharon and I enjoy live theater, road trips, cruising and of course family time. ✈



If you're a close friend of Dave Murray's you may feel a little left out after seeing the Festival of Flight banner on page 7. "He maiden'd his T-33, and didn't even call me!?" Not really. Dave doesn't even have a turbine installed yet. Dave, Dale Gathman and I had some fun with a photo shoot out at the field last week. A little Photoshop work and his plane was "in the air". Thanks Dave and Dale for taking the time to come out and play.





SECRETARY'S REPORT

Tony Sokol—secretary@foxvalleyaero.com

Fox Valley Aero Club
General Meeting Minutes
March 8, 2012 @ Township Hall

President Tom Spriet called the meeting to order at 7:41pm.

Secretary Tony Sokol asked for additions or corrections to the minutes as published. The minutes were approved.



photos by Doug Swanson unless noted



Treasurer Paul Jacobs reported that the treasury is in good shape. We are ¾ of the way to completing membership renewal. We all need to make sure that our AMA dues are paid up for 2012. Paul presented the totals for the income and costs related to the recent Swap Shop. The bottom line is a profit larger than the last two years indicating a favorable positive trend. A

hearty thank you goes to Jim Toth, Joe Pedone, and John (JT) Turner who did a great job of organizing the fest.

Field Chairman Greg Bohler reported that bids have been published in the *Flypaper* for the mowing and Weed & Feed for the upcoming season. The Port-A-Potty and dumpster will both be reactivated during the 1st week of April. No major projects are planned for the upcoming work day (April 21st). Resealing bleachers, touchup painting, rut repairs, and some grass seeding where needed. The major push will be to clean up the barn area. The field budget will be presented when the outstanding bids are accepted which should be by next month. The area behind the main runway will be cut down to 1 ½ inches for those that prefer a grass runway. The lack of watering capability is of some concern.



President **Tom Spriet** informed the general membership that the Board had voted unanimously to grant **Steve Baker** a lifetime membership in view of his untiring effort and generosity to help bring the field to where it is today. Everyone agreed.

Safety Chairman (and Field Attire Guru) **Karl Griesbaum** noted that a vendor from Ohio had given us a sample T-Shirt to present to the membership



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for review. Karl and Paul both thought this may be a nice shirt to have available for our annual Festival of Flight. We plan to make them available for purchase by members and guests and as favors for the pilots. Omitting any date references, the shirts will be good for FVAC events in the future. Hearing no opposition to the idea, Karl was instructed to proceed with the project.

Also under safety, **Tom Spriet** informed the membership of the Board's decision to reinstate a member who was asked to leave the club last year. The member will be reinstated on a 6-month probationary status. Safety chairman **Karl Griesbaum** and **Dave Murray** will work out the details of the probation elements to be monitored.



Dale Gathman photo

Newsletter Editor

Doug Swanson brought along the AMA plaque, \$75 gift certificate, and letter outlining Doug's achievement with the *Flypaper*. Tom shared the letter with the membership. Doug stated that he is back to business

as usual looking for input for the newsletter. Of special interest are articles relating to building and flying tips. Doug is always on the lookout for content.

Cliff Fullhart brought along a Thomas Morris Scout trainer built from a Balsa USA kit. The OS.52FS powered plane took two months to build. It is covered with Olive Drab Solartex which is a pre-painted fabric covering. Cliff shared some interesting facts about WWI planes and their power plants.



Dale Gathman photo

Dale Gathman

displayed a 5lb E-flite Hawker Hurricane powered by a .25 electric motor. The plane sports flaps and optional retractable landing gear as well as a lighting system that Dale plans to install later.



Membership Chairman

Sal Perno was not present however Tom introduced two new members. **Danny Vancura** of St Charles started flying about 3 years ago and joined after the meeting. **Brian Wituk** has been flying for around 5 years. He has several planes including a P-47 and a bright orange and black striped Super Sportster.

Jeff Anderson shared the news that **Rich Schaffer** of the Naperville club passed away. Many of the FVAC members knew Rich. The service will be in Bolingbrook.

John Fisher

brought his newly acquired E-flite 480 powered F4F Wildcat. The Bind-N-Fly plane uses a 1500mah LiPo. John also gave us a heads up on the use of the knock off Robart-style pin hinges supplied with his B-25 kit. He almost lost the big bird due to the pin hinges developing a good 1/16-inch play. With the help of **Tim Redleman** he was able to replace the inferior parts with genuine Robart hinges.



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Mel Ziska told us about his Yak 54. He discovered that you can contact a company in China where you can send them a picture of the plane you want and they will build it for you in ARF form. Discussion of cost was somewhat limited.



\$2999.99! It sports a touch screen, built in camera, and servo speed control to match your brain to the plane. In effect, it allows you to match the servo speed to your individual reaction time to help smooth things out.



Following the show and tell, Tom auctioned off several items left over from the Swap Shop club table. After the auction, **Rusty Dose** motioned to adjourn seconded by **Dave Murray**. The meeting was adjourned at 8:39pm

Respectfully Submitted
Tony Sokol – Secretary FVAC



Tom Flint brought his NBF (never been flown) RV-8. The plane is powered by an OS.46 and has flaps. Tom decorated the pilots however it took so long one

of them developed gray hair! Tom also added some paint stripes for orientation.

Tom Spriet displayed the red Decathlon which he acquired though some bartering. The Decathlon has a special significance for Tom in that it is the first full scale plane he had flown.

Rusty Dose introduced us to his scratch built epoxy/glass and Foam TOC Acromaster. The 8 ¼ lb plane uses a 120 size electric motor utilizing 16 5S or 6S batteries. Rusty also brought his new Futaba 18MZ which sells for



FIELD CHAIRMAN'S REPORT

Greg Bohler-gbohler@sbcglobal.net

Welcome to spring. Winter is over and it is time to break out those new models and dust off the old ones. It's time to fly again! By the time you read this the Porta Potties will be back at the field and the dumpster pickups will resume. I have already re-energized the Juice Bar. The rest of the amenities will be put out on field work day.

I was out at the field looking around and realized that growing season—because of the weather—has started early this year. I have contacted Fox Valley and asked that they start mowing early and we will still do our

bid awards at the April meeting. We needed to start early to maintain our field and not create a hay field.

We have put a lot of thought into field work day and this year looks like it will be an easy one. We are not going to do any major projects. The board has talked about some things we would like to see in the future but we think it would be prudent at this time to hold off on anything major until we sign a new lease. We have a couple minor landscaping issues, sealing of the tables and bleachers, clean out the barn, and get out all the amenities. With a little help we should be done in no time so please bring an airplane to fly. The way the weather is shaping up it will be a great spring day to get some flights in.

Remember, field work day is April 21st this year. We will begin work at 8AM.

On a different note, the Toledo Weak Signals show is the week end of April 13, 14, 15. I always look at that show as the kick off to my season. If you have the time and ambition it is definitely worth a look. Quite a few of our members go down for the show. You are liable to find just about anything there. If you have time that weekend it is worth a look.

Think spring, and I will look forward to seeing you at the field.

Greg Bohler



CHIEF FLIGHT INSTRUCTOR'S REPORT

Dan Compton-trainu2fly@comcast.net 630-664-6426

Spring is here again and with it the warm weather that we all love. Warm weather always brings out the hibernating bears who have been waiting to get out and get back into the air.

Jim Clousing has asked for a little help getting his wings back so I have been standing by as he gets reacquainted with his airplane and the crosswinds that seem to be the norm at our field. Jim is doing just fine, but a little help here and there never hurts.

Please note that even for those who have been soloed, our top quality instructing staff never give up on you. You may ask at any time for a little help getting the cobwebs cleared out. We will help whenever you think you need it.

Cliff Fullhart, Paul Jacobs and I have been instructing Jim Diverde recently. Jim has several flights with each of us and is doing quite well. He is flying around and getting used to flying the pattern. He has landed a couple of times and in the future we will be working on

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getting the plane closer to the flight station instead of out near the corn field. We will also work on takeoffs now that he has made adjustments to his nose wheel to make the plane track better. Have no fear—we will make a pilot out of you.

Come on, get those planes charged and get out and enjoy some of the fine weather and this great hobby.

Attached is a picture from April 24, 2001 showing Cliff Fullhart and his Aeromaster which he was going to maiden with the help of Greg Wright (far right). Cliff still flies this great plane. Spectators on the log were L-R Arthur Lawrence, and 2 of our deceased members, Walt Stubbings and Ken Morecraft. Arthur has been seen at the field recently and is planning to rejoin FVAC now that he and Sara have moved back from Indiana.

Dan Compton, Chief Flight Instructor



Dan Compton – Chief Flight Instructor

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FOX VALLEY AERO CLUB INSTRUCTORS



FVAC PATTERN CONTEST

June 2 & 3, 2012 - Fox Valley Aero Club

AMA charter club # 252 - St. Charles, IL

Classes: Sportsman, Intermediate, Advanced, Masters, FAI

Entry Fee: \$30.00 (includes Saturday lunch)

Awards: 1st thru 3rd in all flying classes



Practice: Friday, June 1, 2012 starting at 10am

Registration: 8am Saturday, **Flying Starts:** 9am

CD: Gary Stephens

Co CD: Paul Jacobs

Facility: 50' x 800' asphalt runway – East to West with AC power.

Field address: 3821 Karl Madsen Dr., St. Charles, IL 60175

Info: Gary Stephens (630) 992-0226 stephens89@att.net

<http://www.foxvalleyaero.com>

Judging:

All classes will be judged by contestants.

Please be prepared to judge all classes.

Volunteer judges are welcome.



BOX 449
119-125 ADDISON AVE.
ELMHURST, IL 60126
PHONE: 630-832-4908
FAX: 630-832-3812
www.alshobbyshop.com

Al's Hobby Shop Celebrates 65 Years of Family Business

On Saturday April 21st, Al's Hobby Shop will be hosting an Open House and super sale in the store in honor of its 65 years of doing business in Elmhurst, Illinois.

Please come and join us in our celebration. There will be manufacturer representatives on hand to talk about their products, slot car and mini-rc racing, drawings, and in-store raffles.

Refreshments will be available as a thank you to all of our customers for their loyal support.

April 21st, 2012
10am-5pm
Hope to see you there!



Al's Hobby Shop has been in business for 65 years, and in that time we have tried to do our best to make our customers feel welcome and happy with their purchases. In this rough economic time with the internet breathing down our neck, Al's is trying to provide our customers with the most quality service and the best pricing around.

It is hard for us to keep up with all the current price changes, so if you see a price advertised, and we have it higher, please do not be afraid to ask. We will either be able to meet it, beat it, or just say I am sorry we cannot do that. Give us a chance keep the local hobby stores in business.

Please do not forget to mention your name and what club you are in. The members get a club discount and the club also gets rebate money at the end of the year for your purchases. Remember, all of my employees do not know all of your names or which club you belong to so LET THEM KNOW.

Thanks,
Cindy McFarlane

Any questions concerns or problems please do not hesitate to call me 630-832-4908

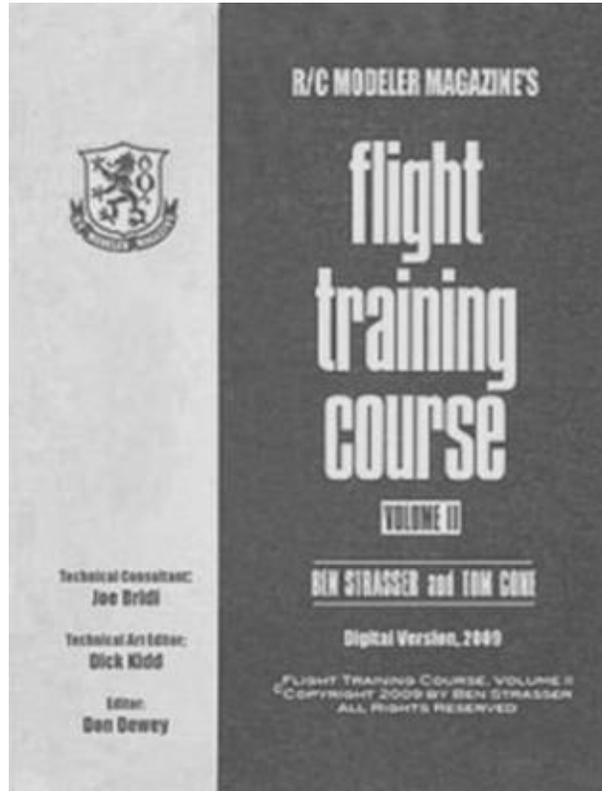
Chicagoland Classic Pattern Championships

The Chicagoland Classic Pattern Championships are scheduled for May 26 and 27th at our field and Rusty Dose has submitted a couple of articles to get your level of interest up.

Classic Interview: Ben Strasser

Note from Rusty: *The "RC Aerobatic Holy Grail", a phrase I penned in November of 2008 for a thread on RC Universe, was the catalyst for meeting Flight Training Volume II author, Ben Strasser. I was thrilled and honored to learn that Ben had seen my thread on RCU and decided to offer the publication on DVD.*

In my opinion, the 173 page book is without question, the finest and most complete book discussing radio control precision aerobatics ever published. When I say complete, I mean trimming, set-up, control input and background for THE elements of aerobatic maneuvers, practice, a construction article of Ernst Totland's Miss Norway (note that this is NOT included in the new DVD version) and there are photographs of the 1973 FAI World Championships.
Rusty



RCM Flight Training Volume II

By Ben Strasser

Format: DVD

Street Price: \$19.95

Phone Orders: Cell (818) 571-7112

E-mail OKRCPilot@aol.com

The following interview was conducted via e-mail during the month of May and June 2009.

RUSTY: *Ben, how long have you been involved in modeling?*

Ben: Well, my first recollections of becoming a modeler are when I was in elementary school in New Jersey. I was in the 4th grade (circa 1937/38?) and they had some kind of a school-wide hobby contest. Anyway, I submitted a few small solid balsa display models (one of which was that beautiful swept wing Beech) I had previously built for my entry. Well, I didn't win anything. When my Mother talked to some of the judges afterward, who were neighbors, they told her that I didn't win because they were convinced my father had built them for me! Unfortunately, no one bothered to ask.

Later on I was involved on occasion in building "stick models," for which I was never fully successful. The most fun was putting a thick line of Ambroid glue down the bottom, hanging a string from the back, lighting the string and watching the plane fly off to its' doom! Yup, I know I didn't invent that. Surely there are lots and lots of us who played the same game.

I really became what one might call a modeler with the advent of true proportional radios. (Remember the Galloping Ghost? No I didn't have one of those but at that time I thought it was a far advancement over the reed stuff guys were flying) Prior to that time it was build. Crash. Build again months and months later, then crash. And so on. Those pre-proportional days didn't offer much in the way of successful experiences and the enhancement of one's self-concept as a modeler, though lots of learning went on!

RUSTY: *When did you become interested in radio control?*

Ben: Well, I've always been a "gimmick" person. When

radio control was first on the scene (with large tube radios and planes that had to carry a rather large dry cell battery) in about 1957-8 I guess, I was an elementary school teacher at the time and on the side was working on an educational video on the Science of Flight. Needless to say, we promoted an R/C plane and radio from Babcock R/C systems. (I had never flown anything even remotely related to R/C at that time.) While all of the script writing and shooting was going on I was also building the plane and setting up the rudder-only R/C system. We did get some footage of my R/C plane taxiing looking like it was ready to take off out at El Mirage Dry Lake Bed here in Southern California, but that was the best I could do. We did include that footage in the video and of course gave Babcock credit. But in reality trying to fly alone (I just didn't know anyone who flew R/C at that time) we really never got that plane airborne. That was my introduction to R/C. Then I waited and watched the ongoing development of radios, receivers, servos, and such. Of course, as a teacher with Los Angeles Unified at the time receiving a monthly salary of \$350 take-home and working as a musician playing dance jobs on week-ends, there wasn't much left to spend on buying an R/C system! Finally though I managed to get myself a used proportional set and for my first times I was actually flying and bringing home a plane that was still flyable next time! Whew. My personal thanks to all those geniuses like Babcock Radio, Bonner, Phil Kraft, Orbit, and.... who made my success possible.

RUSTY: *Where did you learn to fly?*

Ben: At some time prior to my real entry into the hobby LA County Parks and Recreation had built an R/C field at what we now call The Sepulveda Basin. There was a very large blacktop runway with a pit area. Unbelievable. (In later years that runway was relocated toward the western edge of the Sepulveda Basin when a road was added through the area and other park development took place.) At that time it was an otherwise unused area behind the Sepulveda Dam, constructed to tame the winter waters that previously would flood out parts of southern Los Angeles County. Well, it was when I found that wonderful place to fly and could meet and get lots of welcome help from other R/C guys that my real interest and enthusiasm for R/C bloomed. So, it was really

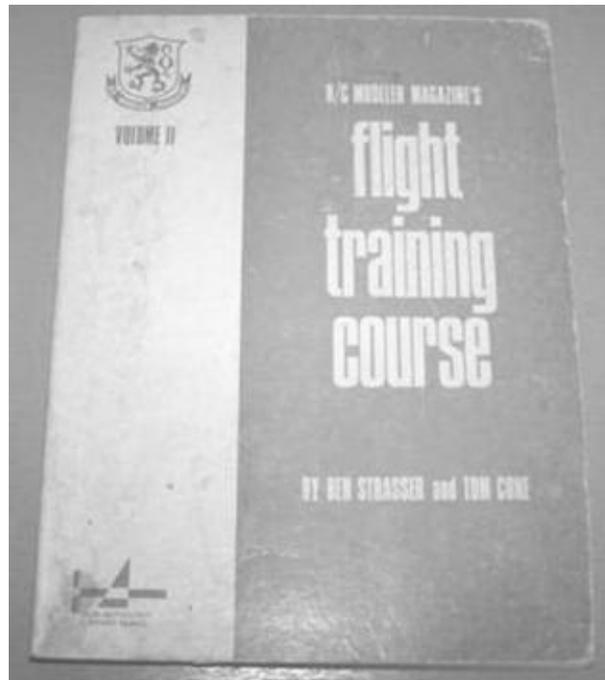
my experience at the Sepulveda Basin that I consider it was where I really learned to take-off, fly around, land, and come home with a flyable airplane for next time!

RUSTY: *What was your first radio controlled model?*

Ben: My first radio controlled model that I actually flew and enjoyed flying?

RUSTY: *Yes.*

Ben: It was Joe Bridi's Kaos. Now flying that was heaven. My first concern about an R/C plane at that time was that it would land slow. And the Kaos could land so slow that with the plane at an idle and holding full up elevator it would just hang there in ground effect. To get it down all I did was simply ease off the up elevator. I even wore down some of the sub rudder because I'd come in for a landing hanging it at such a nose-up attitude that with the nose and mail gear off the runway I could drag the tail on the blacktop. With that



thick wing cross section and blunt leading edge it was just about impossible to stall! What a plane. Matter of fact, I still have a Kaos that I flew in the 1970's with many hundreds of flights on it. A few years ago I pulled the original Kraft radio and replaced it with a 6-meter Futaba as a way of paying homage to a great R/C plane.

RUSTY: *When did you discover aerobatics?*

Ben: Well, remember that I have never implied I was or wanted to be a contest aerobatic pilot. As I recall I got interested in flying some aerobatics or maneuvers after the point at which I was able to take off and land somewhat routinely and got tired of just flying around in circles up there. I'd see someone at the Basin fly a loop and that looked neat so I'd ask him how he did that. And with his words of wisdom I was flying something that sort of resembled a loop, in my mind at least. Then inverted flying, an axial roll, and spin about made up my repertoire. And while they were no doubt quite sloppy because I didn't really know how to finesse those maneuvers, I was at least proud of what I was learning to do up there!

Remember, in those "way back when" days we didn't have any of the wonderful computer capabilities we have now. For example, if you installed your elevator linkage, and the elevator went the wrong way, there was no transmitter switch to correct that. You had to switch sides on the servo output – if that was possible. Sometimes it meant removing and reinstalling the servo to move it over because that was the lesser of two evils; when it was too involved to relocate the hardwood pushrod that was used at the time. Or sometimes it meant taking the servos to our local RC guru to have the internal wires switched so the servo would operate in the opposite direction. If the control surface moved up and down too far, you had to experiment with changing holes in the servo output and/or the clevis horn at the control surface end until you got it right, or at least nearly so. That was what it was like, back then before the days of the chips...

CPT: *Tell us about your education career path?*

Ben: Gad, my education career path is more or less 22

the story of my life! Well, since I was in about the 4th grade and started playing trumpet, my goal in life was to become a professional musician. Played in the school band and orchestra and had my own “dance band” in high school for which I studied and learned how to write my own arrangements. Then, when I graduated from high school I went to a local junior college, taking all and only all the music courses I could find. At the same time I was also working full time as an aircraft engine overhead inspector at Pacific Airmotive located in Burbank. One day I got a letter informing me that the California National Guard unit I belonged to was called up and I was in the army. It was at that point at which I really benefited from all of my years behind a trumpet and learning to write arrangements because I auditioned for and was able to join the really outstanding 120+ member 40th Division Army Band.

As Army bands go this one was special because it was



comprised of musicians like myself who had joined the Guard to avoid the draft rather than guys who joined the Army then decided that the Army Band was a good place to be! We also had two dance/show bands made of the Division Band guys. Because I had a complete “book” of arrangements, I led and wrote arrangements for one of them.

We played dances, officer’s clubs, and Division special service shows. After about six months at what

was then Camp Cook (now Vandenberg) we were shipped off to “occupy Japan.” And, as far as we all were concerned, that was great duty. The Division Band played various Army-related events and concerts including the then great Ernie Pyle Theater in Tokyo. And my dance band was also kept busy. Called the Night Winds, we even had a weekly Armed Forces Radio Service hour radio show. And thanks to the US Army, I was what I had always wanted, the life I had wanted to lead, that of a musician! After about 10 months of that wonderful duty in Japan, we were sent to Korea, though, thank goodness, things were quiet at that time. Four months later our enlistments were up and most of the 40th Division Band members were sent home and soon I was back at work at Pacific Airmotive. But now I had the GI Bill and was able to study music at a well-known institute in Hollywood – four nights a week after work. However, that was about the time that guitars began to rule the music business and my kind of big band stuff was becoming passé. As I realized what was going on I decided that the music business wasn’t for me and enrolled in college full time to get a teacher’s credential. And I loved every moment of it, completing work to get my BA in about a year ahead of schedule. Good thing though because my GI Bill ran out the last day of my college work! And I was immediately hired as an elementary teacher for the Los Angeles Unified School District.

In addition to the horrendous challenge to the first-year teacher preparing lessons and so on, that was a new kind of fun for me because I was always interested in science and did all kinds of science stuff with my students –which they loved! And because of my music background I got the principal to pay for tonettes for each of the 40 kids in my class and they all learned how to play some songs. So I really enjoyed all of that variety in the classroom very much – as did my students. Meanwhile I continued going to the local Cal State Northridge working on my MA – administrative credential. That led to my getting offered a position with the Los Angeles County Office of Education as a science consultant – as well as a very serious pay raise!

In that position we worked with all of the 70+ school districts in Los Angeles County. They ranged in size from the behemoth Los Angeles Unified to our one-room school in Gorman, with all kinds and sizes of districts in between. And

I was knee-deep in my first love; science.

During my 45 year tenure with the Los Angeles County Office of Education after about 15 years or so my position changed from science consultant to a consultant in Teaching Strategies and became co-director of the Teaching Strategies Center. In that role we developed training systems for teacher aids, teachers, and administrators of Los Angeles County Schools – though we also provided occasional service to districts outside of LA County including the California State Department of Education. Our staff of four conceptualized the training programs we offered, we developed all of our own written and related media training materials, and, produced all of our own videotapes that were used in our training programs as well as training for the California State Department of Education. That experience got me very involved in writing and well as video production work. Presently I am enjoying being retired, though I’m not sure what that means to most people. I work on my R/C airplanes, get out flying twice and sometimes three times a week, do some commercial video production work (which I’m doing between these paragraphs) and try to keep up with some of the maintenance on my 40ft. sport-fisher boat, The Centerfold. That’s my definition of retirement!

RUSTY: *How did you get involved with RCM?*

Ben: Well, I wanted to get myself one of those new Kraft Proportional R/C Systems, at that time selling for \$900. And because that was clearly something I could not afford on my teacher’s salary, I decided that one thing I believed I could do was write about getting your first R/C airplane set up and flying. But I also realized that my experience was somewhat limited, having only built a few R/C planes at that time. So, I called Phil Kraft, whom I did not know personally at that time, and asked if I could have a few moments of his time to meet with him about a project I had in mind. Thankfully, he agreed.

I drove down to his business near San Diego and told him that there was need for the type of book I proposed (there were few if any such books available at that time as I recall). My proposition was that I would meet with him to discuss

various installation techniques and so on. I would do the writing, submit to him for editing, then, when complete, Kraft would sell the book with Phil Kraft as the senior author. And my payment would be a shiny new Kraft proportional R/C system! He agreed and I started work. On occasion I'd drive down to meet with Phil and the book began to take shape to the point at which it was just about done, short of a final read by Phil.

Then I got a call from Don Dewey, who owned RCM. Don said that he was working on the same kind of book that he learned from Phil Kraft I had been doing. (Apparently as part of his RCM business, Don Dewey knew and was friends with just about everyone of note involved in R/C) Don asked if he could see my table of contents and a chapter or two. Much to my surprise in having Mr. Dewey contact me, I found time to get up there, share my table of contents and drop off a couple of chapters. While meeting with Don I noted that I had been working with Phil Kraft, and Don said Phil told him it would be ok with him if I were to sell what I had done to RCM.

On the next day Don called and said that he wanted my book! When he asked what I wanted for it I said that I had been doing the writing because I wanted a new Kraft proportional radio. Don's agreement with me was that the book, RCM's Flight Training Course (volume I) would be published with him as the author. He would, however, give me credit for my



work in the forward. And that seemed great to me because I was about to get what I had been working for. And while many in the hobby knew RCM and Don Dewey, no one but my wife and kids knew Ben Strasser, so it was clear to me that with Don's name on the book certainly more would be sold. Two days later I received a brand-new Kraft proportional R/C system with about 10 servos and a life-time subscription to RCM. Wow. Things just couldn't get better than that. I had a new Kraft proportional R/C system; then undoubtedly the best of the best in R/C systems. I bought one of Bridi's Kaos kits and started building!

RUSTY: *When did you meet Joe Bridi?*

Ben: Actually, since Joe Bridi flew at the Sepulveda Basin I had talked to him on occasion about trimming and flying my Kaos. For example, I had found that when flying the Kaos straight and level and giving some left rudder, while it would push the tail slightly to the right, the plane would fall off into a right bank! When I asked him about that his comment was, "Yes, isn't that interesting. It's adverse yaw." Then, when I received approval from RCM to work on Volume II, Flying Maneuvers, and asked who they would recommend as a current, well-known pattern contest winner, they recommended Joe Bridi. Joe and I met and the book was on its way. After the book was done Joe hired me to write the building instructions for all of his kits and also he wanted me to take over coordinating their advertising. So I worked with Bridi Hobby until the time when Joe and his partner Lou Stanley sold their company to Great Planes.

RUSTY: *Were you involved in the development of any of the designs?*

Ben: This is an easy one; no. Lou Stanley, Joe's partner was the airplane design genius. The only time when I became involved was when I was building the prototype. Once in a while I'd run into some assembly problem that would not work as I was writing the assembly instructions or building the prototype. Then I would meet with Lou and he would come up with a solution. I never actually participated in the real design of any of their many kits however. I was what one might call a feedback person when it came to assembling

their designs.

RUSTY: *How many of Joe's designs did you complete a construction article?*

Ben: I started working for Bridi Hobby after they already had the Kaos and RCM Basic Trainer and RCM Trainer available. So I worked on all of the kits they produced after those first kits; from the 40 size Kaos, Dirty Birdy, all of their



fiberglass scale kits including but not limited to their Shrike, F7 Tigercat, and so on, until they closed their doors. So my answer is, I really don't recall. All of them!

RUSTY: *The construction elements for the photos, did you do the work?*

Ben: Re the construction photos, yes, I shot all of them as I was building the kit prototypes and writing the assembly instructions. But let me differentiate here between the model prototype and the kit prototype. Joe and Lou had always built and flown the models before the kits were designed. I was not a part of that process. Then, when Lou would design the kit and come up with the first set of manufactured parts for the kit, that's when I came onto the scene; to use the kit parts to build and test fly the kit prototype. And that was really very interesting and 24

fun work because I really enjoyed working with Lou and Joe, especially for all that I was learning from day to day; model to model, about building and flying R/C models.

RUSTY: *I loved the perfectly applied “center-lines” on all of the parts. Did you do those?*

Ben: Bridi would have already applied the lines and cut-out all of the parts as well. Remember, this was produced before Photoshop so I would use a razor knife to sharpen some of the lines.

RUSTY: *Did you build the proto-types?*

Ben: Yes, I did complete all of the prototype models and flew them, but with some exceptions as far as the flying was concerned. For example, when the Shrike and F7 Tigercat kits came out, for example, I was not expert enough to fly those planes; that was Joe’s job. That was also the case for several of their later scale kits. I’d get them together basically to write the assembly instructions and make sure all of the kit parts worked and fit, but Joe and his and Lou’s friend Nick Zirolì, as I recall, would do the test flying on those models.

RUSTY: *The Anthology Series, was this a Don Dewey idea?*

Ben: Well, RCM had been doing anthology stuff before the two volumes of the Flight Training Course in which I was involved. Then RCM asked if I would like to do the anthology of their Ford What It’s Worth Column. I did several volumes of that before Jerry Smith agreed to take over the monthly feature and he then did all of the following FWIW anthologies. I also did several anthologies of Clarence Lee’s Engine Clinic articles. While very challenging because in both cases I had to determine the various categories of the articles and sometimes revise an article that covered several topics to the article could be separated and grouped accordingly, both kinds of anthologies were a great experience. Imagine getting paid to read and really think about each and every article, letter and
25 Clarence’s response to those letters that appeared in

his column. I don’t recall exactly how many of Clarence’s anthologies I did of Clarence’s articles, perhaps 3 or 4?

But getting back to the Flight Training Course, as I stated earlier I was working on the Flight Training Course with Phil Kraft just about the same time Don Dewey was either thinking about doing the same thing so I guess you could characterize Volume I as two people identifying and responding to the same need. On the other hand, the Volume II which centered on following up Volume I with learning to fly the various basic maneuvers, that was all my idea. I wanted to learn how to make my plane do some of those neat things up there. With the support of RCM and Joe Bridi I was really involved in a super training program during those years. I must add that Joe was a really great guy to work with all of the way from start to finish.

RUSTY: *Tell us about RCM’s Flight Training Course, Volume II, a truly awesome work, fantastic detail and concepts...your thoughts, Joe’s thoughts?*

Ben: I sincerely appreciate those very nice comments. Well all of the detail, concepts and so on were my baby. Joe and Dick Kidd of RCM decided what maneuvers should be included, but after that, it was my job. I first turned to Tom Cone, a very competent R/C pilot and really nice guy (who was credited as my co-author because without him there would have been no book!), to demonstrate the maneuvers for me and help me find my way through them. As I worked I simply kept mental track of what I was going through. It was my learning experience which then became the basis of each chapter. Then Joe would enter the scene, review what I had written and make editorial comments. We would then sit and talk about flying that maneuver in a contest while I listened, tape recorded his comments, and kept notes. That unique viewpoint of the accomplished contest flyer added a lot to each maneuver. Then we also decided to dedicate an entire chapter to flying in contests, based, of course, on Joe’s experiences.

Remember, I have been a life-long professional educator; teaching was my business. And true teaching means getting down deep into the content with which you are concerned,

figuring it out from the inside in a way that makes sense to others, then putting that together. That, in truth is what real teaching is all about. While working for Bridi Hobby (I came up with the name they used on all of their kit boxes, BRIDIKITS!) I was working full time first as a science consultant then consultant in teaching strategies for the Los Angeles County Office of Education. My job was to develop training programs, including conceptualizing what was to be learned, developing all of the written support material, producing our training-related videos and so on ; that was what I did. So my way of thinking about learning; breaking what was to be learned by teacher and administrators into make-sense, learnable, achievable steps, was my job. So you can see that my work on Volume II was essentially the same kind of thing I was doing from day to day and what I found challenging and what I enjoyed doing. The way the various maneuvers are written simply captures my way of thinking and learning about them. It’s really nothing more than that.

RUSTY: *Was there discussion about a manual III and what would be included?*

Ben: Well there was no discussion about a Volume III after the Volume II was written, Volume II was a lot of work and took well over a year to write. No doubt some of my sense was, “Been there, done that.” And there was the problem with all of RCM’s anthologies, (of which they had many I might add and many different authors who wrote them), including the Flight Training Course volumes. All of their productions were additional work for the RCM’s normal magazine production staff. That is, when I would meet with RCM’s graphic artist, for example, it was between her work on coming issues of the magazine. When I would meet with some of the really wonderful ladies who were typing the galleys (this was long before the days of MicroSoft!) to review and perhaps edit what they had done, that meeting was in the middle of their work on coming magazines. So, all of the people at RCM were working full speed all of the time. Each anthology or other RCM production was additional stress on them. And all of that came in about the time that Don Dewey started his monthly Aquarium Magazine – again which depended on the time and talents of

the existing RCM staff. So their production of anthologies became, for the most part, a thing of the past.

RUSTY: *Are you still involved in modeling today?*

Ben: Very much so, although since RCM's demise I no longer write product reports and other things which I did for RCM for many years.

I must add that while I enjoyed doing product reports for different airplanes, some of which were for planes I wanted to build, now I only build or work on those planes I want to fly. I presently belong to three active R/C clubs in the general area and have a lifetime-desired work area for my planes with three work benches, lots of light and lots of room to hang my many, many flyable models during their trips to the field. Recently, with the tremendous advances in electric motors and batteries all of my recently built or ARF planes such as the Yak, Sukhoi, Kantana, seaplanes, float planes, foamies, and such are electric, though they are not the larger 1/4 scale electrics. And, of course, while I still fly all of my 2/4 stroke glow planes on my reliable Futaba 8UAPS on six meters (got my license when they were having trouble on 72 with third-order interference), all of my new electrics are flying on 2.4.

Classic Flying: Flight Trimming and Set up

Note from Rusty: *Many of you may not be familiar with one of America's pattern flying giant's, Dave Guerin. Dave Guerin is a world class pattern aircraft designer, builder to the "stars", former F3A Team Manager, USA FAI Selection Committee Chairman and AMA Pattern NATS Contest Director 2005-2009.*

In 2006, Dave and I created a precision aerobatic clinic curriculum geared to the most accomplished pilots and callers, to level the playing field for potential USA

F3A Team members. The clinics were conducted in 2006 and 2007 in Green Sea, South Carolina, Milwaukee, Phoenix and Chicago to over 100 attendees with very positive results.

The concepts and processes that Dave discusses can be applied to ANY model airplane. It is amazing how much more fun it is to fly the typical airplane that is properly trimmed! Future articles will discuss coaching, practice and contest preparation. Rusty



Flight Trimming and Set up By Dave Guerin

Flight Trimming

CG location

We require our aircraft to fly straight and level, straight up and down, and inverted with a minimum input, and not be speed sensitive. Not a small order. The center of gravity or balance point is the starting point of all trimming because it affects every trim function on the aircraft. Without going into a long explanation I will attempt to explain how center of

gravity location affects our aircraft. Every aircraft design has an ideal center of gravity. Airfoil design and wing plan form will determine where the CG will be on a given aircraft.

It would appear that we can compensate for nose heavy or tail heavy conditions to some degree with incidence or elevator trim, but we pay a price. In the case of a nose heavy condition we are using the stab to hold the tail down. In a tail heavy condition it is holding the tail up. As speed changes the wing and stab are either more or less affective causing the aircraft to climb or dive.

1. Any time a control surface is not trimmed to neutral its effect is speed and attitude sensitivity. The term attitudes relates to whether the aircraft is flying upright, inverted, or straight up and down.

2. When the aircraft is flying vertically the wing is no longer lifting the weight of the aircraft so the elevator trim is no longer correct.

3. In knife edge flight the wing is vertical and not lifting, the elevator is now a rudder steering the aircraft.

4. When the aircraft is inverted any trim used to compensate for CG error will be backwards. Nose heavy will dive and tail heavy will climb.

Therefore: aircraft trimming must start with setting the correct CG.

Flight trimming begins with verification of the CG location. **Do not do anything until this is done.**

The correct procedure is to trim the aircraft for straight and level flight, then roll to inverted and note the amount of down elevator required for level flight. A slight amount of down should be required. Land the aircraft and adjust if necessary.

Incidence Settings

Elevator

After the CG is correct note the neutral trim setting of the elevator. If it is slightly up add more positive incidence to the wing. If it is down reduce the incidence.

Test fly, trim for level flight and check again. Repeat this

process until the elevator trim is neutral.

Ailerons

If the ailerons are not neutral with the aircraft trimmed to fly straight and level the wing incidence must be adjusted again. If an aileron is up that panel has too much positive incidence. If an aileron is down that panel needs more positive incidence. Adjust, fly again and re-trim. When you are satisfied everything is correct there is one more test.

Fly to a comfortable altitude, reduce throttle, and point the nose straight down. Note if the aircraft rolls to the left or right on the down line. Repeat as many times as necessary to be sure. If the aircraft rolls left reduce the incidence in the left wing panel or increase the incidence in the right wing panel. Repeat the test and re-trim until the roll is eliminated.

Thrust Settings

Assuming you have done the other steps correctly the only setting that is effective in vertical flight is thrust. **Do not change anything else!**

To determine if the thrust settings are correct pull the aircraft to vertical and note if it moves to the left or right or toward the canopy or the bottom. Add or take away thrust angle until the aircraft goes straight up.

Note: Some aircraft propeller combinations require extreme right thrust angles to make hands-off vertical lines. Experience has shown that extreme right thrust can cause problems in horizontal and inverted flight at cruise (mid range) throttle settings. If this becomes the case it is wise to reduce the right thrust and deal with the issue in a different way. We will cover this in Set-up.

At this point the basic trim is complete, but because there is some interaction between CG location and incidence settings it would be prudent to verify the CG again.

Set Up

Control Surface Deflection

To maximize servo resolution it is necessary to use 100% servo travel where possible.

Use the dual rate function in the transmitter to adjust the aileron and elevator throw until the aircraft is comfortable to fly. Remember- at this point we are adjusting for high rate. Now measure the amount you are using at each control surface. Write it down. Return to high rate at the transmitter and mechanically adjust each control surface to the new throws. You now have set the high rate throws with 100% servo travel.

At this point you should zero out the dual rates and add new values for low rate as necessary.

Note: The dual rate function is used for this exercise so that the servos are mixed together, such as ailerons will track the change together. They will not track together in end point mode.

Aileron Differential

It is important that our aircraft roll around the thrust line in order to track straight in vertical lines. There are many factors that influence the amount, if any, that is required for a given aircraft. Top hinged ailerons are an example that can be a real challenge. This is a real trial and error exercise, but is important and worth the time and effort.

Mixing

Mixing is the last resort to be used only when all other trim options have been exhausted. Mixes are control surface deflections and are speed and attitude sensitive. **Use with caution!**

Pitch Mix

The most common mix is pitch, usually more with left rudder than with right. The mix will not be the same on both sides because our aircraft are subjected to spiral air flow from the

propeller.

The mixing requirement can be checked either in knife edge or straight and level flight. I prefer to use straight and level because that's where we use rudder most for positioning and heading corrections.

Set up the mix function in the transmitter. Fly the aircraft straight and level and apply rudder. Note any pitching, add the appropriate mix and try again. Repeat as necessary.

It is wise to verify mixes on a vertical line to be sure you have not created a problem with inputs and attitude.

Thrust Mix

Thrust mix is used to correct the need for extreme right thrust. An incremental mix function can be set up to add right rudder at higher throttle settings.

Exponential

Exponential is a great tool for making an aircraft feel comfortable, but if used to extreme it can create some spooky results. A large amount of exponential creates a soft spot around neutral which may feel good in calm air but makes it difficult to correct for turbulence because of the amount of stick deflection required. The result is you tend to get behind with corrections.

A large amount of exponential creates a sharp curve at approximately half stick deflection making it difficult to smoothly transition through that area.

Propeller

Engine and airframe propeller combinations need to work together to optimize performance. Experimenting with different combinations of propeller pitch, diameter and number of blades can help optimize throttle management and overall performance.

Don't be afraid to experiment!