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February 2013

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REVIEWS

The Horizon Air Meet, held at the Sanford Regional Airport in Sanford, Maine, attracted a large contingent of jet pilots including Don DeSandre, whose Belgian Air Force Tiger squadron F-16 graces the cover. The event combined the excitement of turbine-powered jets with propeller-driven aircraft, RC cars, and hands-on activities, to draw more than 15,000 spectators.

Cover photo by Jay Smith.

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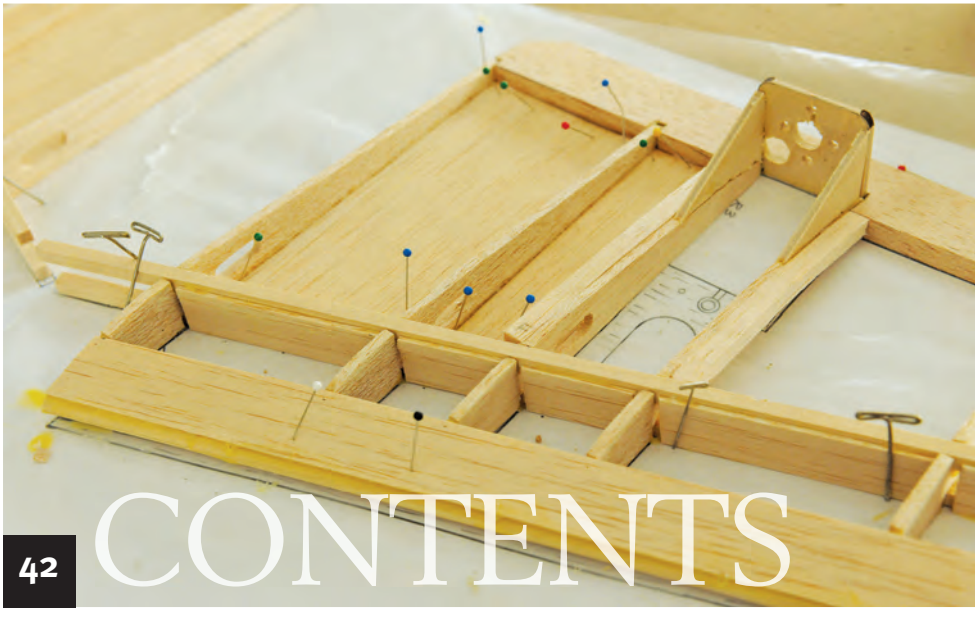

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Bob Brown
bobb@modelaircraft.org

The bottom line: have fun by enjoying model aviation!

I hope Santa has been good to all of you. As I review my first year as AMA president, I am proud of the enthusiastic efforts of the AMA Executive Council in conjunction with the headquarters staff. Challenges are being met with ongoing enthusiasm.

As members, I hope you enjoy this vitality. Model aviation is a sport for everyone to enjoy. Congratulations are extended to those who recently won elections: District II, Eric Williams; District III, Mark Radcliff; District IV, Bliss Teague; District VI, Randy Cameron; District VIII, Mark Johnston; and District X, Lawrence Tougas. These people will certainly enhance an already progressive Executive Council.

The national elections present a continuous challenge for our efforts in Washington, D.C. As politicians come and go, we have to maintain our positive dialogue with all concerned. We cannot sit back and relax; our strong, ongoing efforts must continue.

Informing all of those involved is an absolute necessity. In the next month or so, I will be heading to Washington to create and renew our friendships.

If you have individual alliances with anyone in the nation's government, please keep the AMA in mind. Preserving model aviation as we know it today is everyone's objective.

Whoever thought that privacy would be a key word in model aviation activity? During the holidays, did you see models with cameras on them?

I would bet that some of us think it would be neat to hover over our neighbors' yards and take pictures. Better yet, why not hover over a stadium and watch a game? Ideas such as this will cause tremendous safety and privacy issues. Allowing this to happen will jeopardize model aviation as we know it today.

It's ironic that, while I write this, Rich Hanson is attending a seminar focused on the current issues facing the sUAS community. The information he is providing illustrates another potential curve in the governmental road.

Hmmm ... just when we thought the field might be leveling out.

Not only is the national government presenting a challenge, society in general has changed. Not long ago you could walk into a hobby shop and choose from many kits in stock. Now the inventory is nearly all ARF models.

To say this is good or bad can lead to lengthy debate. Different people have opinions—positive or negative. Dialogue could also be extended toward contest activity. Competition today is not always the same as yesteryear. We have to realize that this is 2013. All things considered, isn't the bottom line to have fun by enjoying model aviation?

Have you considered running for office? Roll up your sleeves and help. I thank all of those in positions of leadership in our activities.

Most clubs hold elections at this time of the year. Have you considered running for office? The excuse that you don't have the time is becoming rather passé.

We can all sit back and criticize., but being positive and attempting to be constructive is a trait we should all attempt to emulate. Roll up your sleeves and help. I thank all of those in positions of leadership in our activities.

More than 250 participants enjoyed the hospitality of the Mentor Area Radio Control Society at its Holiday Electric Fly in Geneva, Ohio. Perhaps the most significant activity of this event was the first sanctioned FAI F3P contest ever held in the US.

The picture illustrates the enthusiasm exhibited by the competitors.

Until next time …

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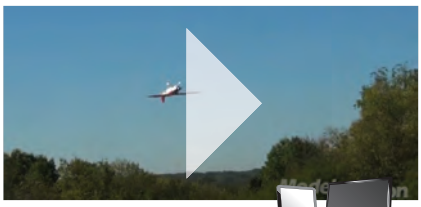

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Hangar 9 Taylorcraft

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TABLET

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Enjoy extra photos from this annual CL flying event.

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Hansa-Brandenburg W.29

www.ModelAviation.com/hansa-brandenburg

Watch the Hansa-Brandenburg W.29 take off from the water in a flight video.

TABLET ONLINE

CL Stooge

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Digital exclusive: A pilot develops an innovative device that holds and launches CL aircraft.

Join the conversation:

Find us on:

Dennis McCarty shares a story about his 17-year-old Gee Bee returning to the skies with his 17-year-old grandson on the sticks. (www.ModelAviation.com/pt-westin)

MA.com Chuck Baker: I was present at the air show and got to see this plane fly—very impressive and Westin did indeed do a fine job flying it. I've known Ed and Dennis for several years—great job guys!

Dell Shannon: Great story!

Readers respond to the DJI Flamewheel article and bonus video. (www.ModelAviation.com/djiflamewheel)

MA.com Gary: Thanks for the multirotor heli coverage; it's exciting to see a new aircraft type become a part of the hobby.

Jay Smith, Editor-in-Chief
jays@modelaircraft.org

What a year 2012 was!

What a year 2012 turned out to be for AMA and aeromodeling! I want to share some of the highlights with you.

In February, President Obama signed into law the FAA Modernization and Reform Act of 2012, which instructs the FAA not to enact rules affecting model aircraft activity conducted within the safety programming of a nationwide community-based organization.

More than 1,000 registered pilots attended both the Joe Nall Fly-In, held in Woodruff, South Carolina, and the International Radio Controlled Helicopter Association (IRCHA) Jamboree, held in Muncie, Indiana.

Thanks to our members, the AMA has stopped its membership decline, ending the year with an increase in membership.

The National Aviation Museum loaned its $^{1}/_{40}$-scale test models to NASA. They were carried aboard NASA's Shuttle Carrier Aircraft as it flew the Space Shuttle *Endeavour* to Los Angeles. The museum also hosted Shirley St. Clair, daughter of Oba St. Clair, the original designer and builder of the Miss Shirley, the first CL full-house aircraft. An article about the event is featured in this issue.

Thank you to our members, advertisers, and friends in the industry for making it a great year!

Our Education Department's online program, AMA Flight School, created by The Basement Design + Motion, won a gold and a silver Addy Award from the Indianapolis chapter of the American Advertising Foundation (AAF).

The EAA also provided an award recognizing the Education Department's assistance that has led to more than 10,000 youths experiencing their first flights with the Young Eagles program. *Model Aviation* underwent a complete redesign, the largest in our history. We launched a tablet app and updated our archives/Library, allowing every issue from 1975 to current to be viewed. This resource is completely searchable.

Bill Pritchett, AMA Education Director, and I ran a four-week-long flight school for AMA employees who were interested in learning to fly model airplanes. Mark Freeland, of Retro RC, provided a FF seminar for AMA employees that included each person building and flying his or her own Catapult Glider.

Although these are only some of the highlights that come to mind as I look back on 2012, I would be remiss if I did not say thank you to our members, advertisers, and friends in the industry for making it a great year!

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If you have a letter to the editor, please submit it to MA *Editor-in-Chief Jay Smith at 5161 E. Memorial Dr., Muncie IN 47302, email to jays@modelaircraft.org, or submit online at www.ModelAviation.com.*

December 2012 issue

Great job on this issue everyone! I love it from beginning to end. I'm hearing a lot of good comments on all the helicopter material too.

Way to go!

—Mark Fadely
MDKJA@aol.com

"Flight Training"

I have always enjoyed Scott Stoops' articles, and am an advocate of his training methods. In the December issue of *MA*, Scott provided some tips on effectively using simulators for training. I would like to add two more.

Scott acknowledges that what makes sims great training aids is that you can "hit the reset button" after a crash. I would suggest that when using a simulator, treat the plane as if it were real and never give up on your digital airframe. Instead, even when auguring into the pixels at the bottom of the screen is imminent, use the situation to imprint good recovery technique into muscle memory. Too many of us get lazy on a simulator because there is no cost to crashing. Also, take advantage of the "equipment failure" feature found on most sims to randomly create dead sticks, stuck control surfaces, and other gear problems that every flyer will eventually encounter in the air.

Just as Scott suggests that we go to the field with a training plan, we should use the simulator in the same way, and exploit its full potential.

—David Fisichella
dfisichella@whoi.edu

Carl Goldberg

Thank you for the fitting tribute to Carl Goldberg. Carl has been one of my heroes for as long as I have been involved with model airplanes. I first became aware of him in 1946 through reading model airplane magazines and a book I found in my school library titled, *Building and Flying Model Airplanes*. My early involvement was exclusively with free flight models and I fell in love with the Zipper and Sailplane! I have built many Goldberg designs over the years. My faithful primary R/C trainer was a Falcon 56 and I literally wore the airplane out.

I had the pleasure of meeting Carl at a model airplane trade show in Los Angeles in the 1970s. I found him to be a warm and friendly person who was interested in talking models with anybody who was involved in the hobby. I told him of my modified Junior Falcon in which I had installed an Enya .099 engine and three channels of proportional control provided by a Bonner 4 RS radio system. He asked me to send him some sketches of the mods I had made. I went home and drew the changes on my original plans and sent them to him.

Thank you again for reminding us of one of modeling's greatest figures.

—Rodney S. Taylor
Bedford, Texas

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D 2.2 std con Nano	$ 9.95	11328	4.8-6	0.08/2.3	16x15x8.2	6	0.12
D 2.7 JST con	$12.95	11303	4.8-6	0.1/2.9	9.8x22x8	7	0.12
D 2.7 std con	$12.95	11302	4.8-6	0.1/2.9	9.8x22x8	7	0.12
D 30 digital	$19.95	6610	4.8-6	0.4/11	20x20x10	13	0.14
D 3.7 Extreme	$12.00	11307	4.8-6	.13/3.4	19.8x22x8	11	0.12
D 3.7 Sky Arrow	$ 7.40	11316	4.8-6	.12/3.3	19.8x22x8	8	0.12
D 4.4 Sky Arrow	$ 6.95	11317	4.8-6	.15/4.3	20x24x8.3	12	0.12
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D 60 precision	$19.95	11300	4.8-6	.36/10	24x27x9	24	0.14
D 80 Eco	$ 8.00	11309	4.8-6	.28/8	25x21x11.5	12	0.14
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D 90 digital	$12.95	11331	4.8-6	.31/9	23x21.5x12	21	0.12
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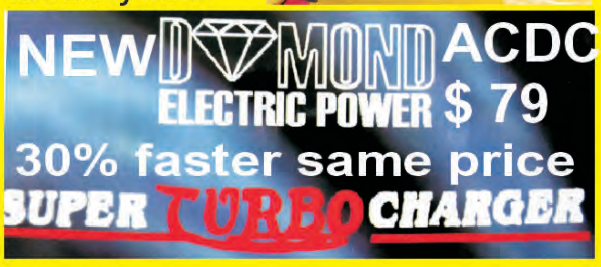
Single conversion 6 Ch	$19.00	80511	3.8-6	0.27/7.6	35x20x9	2000	72 Mhz
Dual conversion 6 Ch	$27.00	80512	4.8-6	.32/9	40x21x9	3000	72 Mhz
Dual conversion 8 Ch	$29.00	80513	4.8-6	0.34/9.6	40x21x9	3000	72 Mhz
2.4 Fut conversionCombo	$69.00	80540	4.8-6	0.54/15	52x29x15	2000	2.4Ghz
2.4 JR conversion Combo	$69.00	80541	4.8-6	0.4/11	46x26x14.8	2000	2.4Ghz
2.4 DIY conversion Combo	$59.00	80545	4.8-6	0.4/11	46x26x14.8	2000	2.4 Ghz
Dymond 2.4 4 ch receiver	$29.00	80534	4.8-6	0.25/7	41x21x8.2	2000	2.4Ghz
Dymond 2.4 6 ch receiver	$34.00	80536	4.8-6	0.46/13	46x26x14.8	2000	2.4Ghz
Dymond 2.4 8 ch receiver	$39.00	80530	4.8-6	0.53/15	46x26x14.8	2000	2.4Ghz
Fut Fasst compat.2.4 8ch	$59.00	80550	4.8-8.4	0.53/15	52x29x15	4000	2.4Ghz
Spectrum compat.2.4 6 ch	$15.95	80552	4-,10	0.14/17	30x50x13	1800	2.4Ghz



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in the Air

Membership news and updates from AMA Headquarters

2012 Carl and Beth Goldberg Vital People Awards Announced

Many clubs have one; fortunate clubs might have more than one. What are they? They are members who go above and beyond to support model aviation, our clubs, and our members.

They do this quietly—sometimes in the background—and often ask for little in return other than maybe an occasional thank-you. They might be club officers, newsletter editors, or even members who raise their hands at club meetings and volunteer to pull things together for the club picnic, fly-in, or some other event.

If you know a member who fits this description, then he or she is eligible for the Carl and Beth Goldberg Vital People Award. For more information about the award and how to nominate someone, visit www.modelaircraft.org/membership/membership/vitalpeopleaward.aspx.

Congratulations to the 2012 winners:

Dave Cook #10439
Nominators: Damian Sheehy and Leon Bowen

Eric Kendall #711254
Nominator: Mandee Mikulski

Walt Wilson #1159
Nominators: Meril Westhoff and Donald Fitch

Pete McIntosh #250592
Nominator: Benny Behrens

Keith Shaw #1946
Nominators: Joe and Chris Hass

—Erin Dobbs
Marketing Partner Leader

Walt Wilson (center) is pictured with nominators Don Fitch (L) and Meril Westhoff. Photo by Carolyn Schlueter.

Pete McIntosh (center) receiving his award.

Keith Shaw (R) receiving his award from a former Goldberg award recipient and nominator, Joe Hass.

AMA Thanks Its Lifetime Supporters!

The Academy recently welcomed Life Members Stuart Goodman, Boynton Beach FL; Jerry Dellinger, Universal TX; John Marien, Hollis NH; John G. Park, Flint MI; Paul Beard, Bigfoot MT; James Newman, Kent City MI; Robert Forbes, Iuka MS; Frank Tiano, Lakeland FL; Ken Myers, Commerce Township MI; Hal Cover, Chino CA; James Bennett, Saint Louis MO; Mahendra Devabhaktuni, Irving TX; Thomas E. Springer, Big Lake MN; Thomas Jetson, Vernon Hills IL; Tony Lim, San Dimas CA; and Reid Condon, Greenville NY.

For information about becoming a Life Member, contact AMA Headquarters at (800) 435-9262.

—AMA Membership Department

Former Council Member Receives NAA Award

Former District VI Vice President Charlie Bauer was presented with the Certificate of Merit from the National Aeronautic Association (NAA). The NAA presented this award in honor of his more than 50 years of service to the aeromodeling community as a designer, competitor, champion, innovator, award winner, Model Aviation Hall of Fame member, and a leader.

NAA President Jonathan Gaffney presents Charlie Bauer with a Certificate of Merit.

in the Air

History Preserved

As a staff member at the National Model Aviation Museum, I am frequently asked about the AMA, the museum, and general modeling history. However, there are a few questions that I am asked so often, I thought I would write about them this month.

Q) *When did I/my friend/my relative win the Nats?*
A) This question is probably the most common one I receive. Museum Director Michael Smith started a project several years ago, creating binders with various magazine articles about the Nats arranged by year. We refer to these often to answer this question.

For some years, nearly everyone who competed in the Nats was listed; other years we only know who won the first three places in each event. There are nearly 85 boxes in the Archives regarding the Nats that are used for researching this question.

We are also working on a spreadsheet of Nats winners, started by one of our summer interns, Kyle Huffman. It will take years to complete, but so far we have 1923-1941 and 1949-1970 done.

As the years progressed, there were more events for people to compete in, which makes typing a slow process. The Competitions Department has recent Nats scores (1998-2012) online at www.modelaircraft.org/events/nats/scores.aspx.

All of our records are available for you to look through. Please contact me if you would like to stop in to see them.

Q) *What was my old AMA number back in the day?*
A) The Membership Department has records on microfilm of AMA numbers going back to the late 1970s. Membership records predating that were lost, misplaced, and/or destroyed.

Also putting a kink in the process, as early as the 1940s the AMA allowed reassignment of numbers assigned to people who let their memberships lapse. Some AMA numbers have been assigned to several people throughout the years.

1974 Control Line Nats contest. (Source: U.S. Navy photo, #0001 AMA Collection, National Model Aviation Museum.)

Sometimes we are lucky and find pictures in old magazines of people and their airplanes with their AMA numbers on the wings, but this is rare. If the individual was not a winner of a major contest, finding his or her picture is nearly impossible, but we are willing to try.

If you would like your previous AMA number back and have an old photo of yourself holding your model with that AMA number on the wing, send a copy to the Membership Department and they will be happy to change your number back to the old one, provided it has not been reassigned.

Q) *How do I get in touch with an old buddy of mine?*
A) AMA Headquarters personnel are unable give out contact information about members, but district vice presidents (VPs) may be able to connect you to your friend. The district VPs have their contact information in their columns in the "AMA News" section of the magazine.

Q) *I'm looking for an article about an airplane I'm building. Where can I get a copy of the article/whole issue?*
A) We can help. Article reprints are $4 each for AMA members. If you are ordering plans from the AMA Plans Service Department, you may also be able to receive a construction article with your plans order, depending on availability. We have 486 magazine titles in our library.

Complete back issues of *MA* magazine can be ordered ($5 for AMA members) through Sue Springer in the Membership Department at extension 294. Issues going back to 1975 can also be found online at www.ModelAviation.com.

—Jackie Shalberg, Archivist and Assistant Historian
jackies@modelaircraft.org

As this issue goes to press, we learned that Sal Taibi passed away on December 15. Sal was a member of the Model Aviation Hall of Fame, an AMA Fellow, and a member of the National Free Flight Society Hall of Fame and the Society of Antique Modelers Hall of Fame. He was 92.

Sal joined AMA in 1936 and was a Life Member. To learn more about Sal Taibi, read next month's *Model Aviation* or view his biography at www.modelaircraft.org/museum/history.aspx.

AMA's partnership with the EPA helps locate new flying sites

For many years, the AMA has solicited input from its membership by conducting member surveys. One frequently asked question is, "What is the biggest issue facing you or your club?" The answer consistently invloves the acquisition and retention of flying sites!

Joe Beshar, former Flying Site Assistance Coordinator, worked diligently with the Environmental Protection Agency (EPA) and on February 10, 2005, signed an agreement with the EPA where both entities pledged to work to allow AMA clubs access to remediated Superfund Landfills for the purpose of establishing model flying sites. You can read more about this MOU on the AMA website at www.modelaircraft.org/files/715.pdf.

Included in that document is a link to the EPA website that lists Superfund sites that may have potential as a future model aircraft flying site.

After a potential site has been identified, the modeler or club should contact me. I will work with an interface company that does the actual remediation for the EPA sites. This company will gather the details of the site remediation, determine if the site is suitable for model aviation activities, and will provide contact information so that the club can make direct contact with the site management.

At this point, it will be up to the specific site management/owner(s)to determine what plans are for the site and if model aircraft activity could be a part of that plan.

Our EPA interface contact provides us with a monthly report on sites that are being investigated for possible model aircraft use, as well as sites that have been completed and are currently in use as model aircraft flying sites. This service has proven to be a valuable resource for the AMA and its clubs and members who are searching for a new or better flying site.

There aren't EPA sites available in all areas, but if one is found to be suitable, it usually provides a long-term, low-cost flying site that would likely not face the negative impact of urban sprawl.

Another advantage is that these sites are usually monitored in some way by the EPA, state, or county government to ensure that the EPA rules are being followed. This *might* mean that the grass is mowed and ongoing maintenance paid for by a government entity, so the club has little cost in creating and maintaining the facility.

Often an agreement can be reached with the government entity so that site improvements are supplied or the cost is shared by the club and the entity. As a result, a quality site is created that modelers will be able to enjoy for years.

It is AMA's desire that members and clubs are aware of the relationship we have developed with the EPA and to take advantage of this resource when searching for a new flying site.

Acquiring and keeping long-term flying sites is difficult. The EPA is helping AMA by making us aware of potential opportunities and then helping us connect with the appropriate stakeholder of what some refer to as "undesirable" land. Land that developers cannot access for at several decades is often the kind of land that perfectly fits our needs.

Please take the time to read the AMA/EPA MOU and see if this is an opportunity that you might want to pursue for your club!

As always, I am here to assist you in any way that I can. Please contact me by email at fsac@modelaircraft.org or call me at (912) 242-2407 anytime.

—Tony Stillman
AMA Flying Site Assistance Coordinator

Flying site assistance:
Information, case studies, and more

Clubs are fortunate to have a resource in Tony Stillman, AMA's flying site assistance coordinator. Helping 2,394 clubs with one of their most critical issues—getting and keeping a flying site—is a big task, and one that requires sizeable resources.

One of the biggest assets in Tony's and your club's "tool kit" is the AMA's website and its repository of how-tos and success stories, some of which entail working with local municipal authorities.

Check out www.modelaircraft.org/membership/clubs/fsap.aspx and you'll find a treasure trove of ideas and problem-solving suggestions.

Tony is available with answers to nearly all of your questions. Contact him at (912) 242-2407 or email him at fsac@modelaircraft.org.

Do you want to share a case study to help your fellow pilots across the country? Send Tony your stories. Consider compiling your story by problem, actions, and results. Learn from and help your peers. It's the best way to fly.

product Spotlight

New products that are **Worth a Closer Look**

BUILDING WITH FOAM

REVIEWS

Readers might be familiar with Keith Sparks. Not only is he the owner of Park Flyer Plastics, but we published his P-40 construction article in the February 2012 issue, along with an article about how to work with foam. If you missed it or would like more information about the subject, Keith has released a revised version of his book titled *Building With Foam*.

It's not only for the novice builder. Intermediate and advanced scratch builders will benefit from this easy-to-read, 133-page book. It is the result of 20 years of mistakes and successes updated with the current construction materials available today. Inside you will learn how to make "homemade" tools such as the bow, cutting templates, and other special implements needed to work with foam.

The book has nearly doubled in content with 60 pages added because of the many new materials, adhesives, and available equipment. Bound with a sturdy metal spine and covered with protective plastic, this book will last on your workbench for years.

Wingspans from 10 inches to 8 feet are covered, as well as glow- and electric-powered models. Three methods of construction are extensively covered, as well as several finishing types. It contains all of the "rules" you need to know to affordably build flying models.

The book also covers storing and transporting models as well as tips on their repair. Black-and-white photos and illustrations can be found on nearly every page to complement the text and further reinforce more complex topics.

If you are interested in building your own foam models and want the tips and tricks to make them stand out, *Building With Foam* is worth a closer look.

Park Flyer Plastics: 7755 Noreast Drive North Richland Hills TX 76180; Tel.: (817) 233-1215; website: www.parkflyerplastics.com

RC LOGGER RC EYE ONE

REVIEWS

We first saw the RC EYE One at this year's iHobby trade show held in Cleveland. Adam, at RC Logger, showed us what this little gem could do and its wide range of flight capabilities thanks to its three flight modes. It would be an understatement to say we had to have this $69 fun machine!

Inside the well-illustrated box you will find a 915 MHz transmitter, two AAA batteries, a 7.4-volt, 350-mAh LiPo battery, USB charger, four spare propellers, and two replacement landing skids.

After a quick read through the manual, we were surprised to find the following statement about the USB charger: "Do not use any computer or notebook USB port to connect power to the USB charger because it may be damaged."

Therefore, we used the charger for an Android device, but were curious on why it could not be charged with a computer. It appears the concern is regarding the power output of older devices and USB 2.0 and 3.0 should be okay.

While the battery was charging, we took a moment to get familiar with the transmitter, which reminded us of a PlayStation controller. The transmitter does not have any lights on it to indicate if it is on or off. When you depress the on/off switch, two beeps indicate that the transmitter is on and one beep means it is off. If you inadvertently leave the transmitter on, it will switch off automatically if it receives no input for a period of 5 minutes.

The USB charger has a solid red LED to let you know the battery is charging. If it is blinking there could be a problem with the battery or connection. When the red LED is off, charging is complete.

The RC EYE One uses two red propellers to indicate the front of the

quadcopter. The LED on the top right can be used for orientation, if it is in the line of sight. One of the things we like about the RC EYE One is that it has three flight modes, which go beyond the typical dual rates.

Located on the bottom of the quadcopter is a push button to select the flight mode. This is chosen after the LiPo battery is plugged into the RC EYE One.

The flight mode always starts at Beginner mode, even if it was previously set to one of the other two settings. Beginner mode is indicated by the LED flashing green on the top. Beginner mode is recommended for your first indoor flights in a small area because it softens the controls.

Sport Mode is indicated by a flashing orange LED. It offers more agile flight characteristics while still providing stability when needed. This is the mode we typically use when flying outdoors or indoors in a slightly larger space such as a living room.

As if to imply caution, the red blinking LED advises you that you are in Expert Mode. The mode provides no limitation on the controls. Pilots comfortable with multicopters and helicopters and looking for extreme maneuverability will find it with this setting.

The RC EYE One exhibits self-stabilizing flight characteristics, and once trimmed, will allow the pilot to release the right stick. The quadcopter will hover almost effortlessly when flown in the Beginner and Sport Flight Modes.

The amazing thing about this scant 77.4-gram quadcopter is its ability to handle the wind. We had initially held off on flying it outdoors until Adam at RC Logger shared a video of the RC EYE One holding its own in winds of 10-plus mph.

The RC Logger RC EYE One is a versatile quadcopter as evident by the success people of all skill levels have had flying it in the office. It has provided the most fun we have had in a while from an RC product at this price.

The only drawback we found is that plugging in the battery can be slightly challenging, because the socket is flush on the bottom and resides between the battery tray and the body of the quadcopter. It was easier to first plug in the battery and then put it in the tray and attach the strap to hold it in place. Flight times are approximately 8 minutes.

Although the included transmitter does an adequate job, RC Logger is working on a "One-Link" to allows a flier to use his or her transmitter of choice to pilot the RC EYE One.

If you are looking for a micro quadcopter that pilots of all skill levels can be successful with, the RC EYE One should be on your short list.

RC Logger: website www.rclogger.com

BUILDING SQUARES

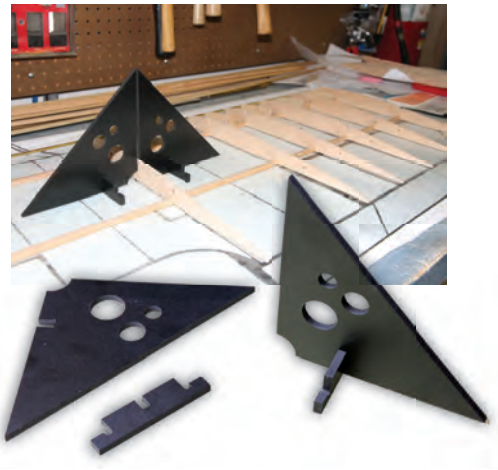
REVIEWS

Whether you build your models from scratch or from a kit, there are certain tools one needs to ensure that the model is built straight and true. A builder's square with a 45° angle works well to align the vertical and horizontal stabilizer or can be used to ensure each wing rib has the proper angle.

Generally, some builders only use one square for alignment. The Building Squares from Precision Aero come in packs of two or four and include a stand that allows them to be freestanding. Made from heavy, 1/4-inch-thick PVC, they are sure to last a long time.

If you labor over installing your airplane's tail and are looking for a simple way to ensure alignment, the Building Squares from Precision Aero might be just what you are looking for.

Precision Aero: 1561 River Highlands Dr., Oconomowoc WI 53066; Tel.: (262) 352-6670; website: www.precision-aero.com



product Spotlight

New products from the **Modeler's Mall**

NAZA H Auto Pilot System for Helicopters @ $269.99 + S&H from Atlanta Hobby, 6110 Parkway North Dr., Cumming GA 30040; Tel.: (678) 513-4450; website: www.atlantahobby.com.

The DJI Innovations NAZA H Auto Pilot System for helicopters goes beyond simple gyros, making helicopter flying easy for both beginner and advanced pilots.

The all-in-one design contains damping, controllers, a three-axes

gyroscope, three-axes accelerometer, and a barometer. The tail gyro is built into the controller, reducing power loss and making 3-D flying easier.

A firmware update will soon be available online for semiautomatic takeoff and landing, with the NAZA H in charge of the cyclic pitch/roll stabilization, requiring only a push of the throttle stick to gently take off in GPS Atti. Mode or Atti. Mode.

An optional GPS module is available that can provide accurate positioning with longitude, latitude, and altitude locked in even in the windiest conditions, as well as intelligent fail-safe to automatically hover the heli if the transmitter signal is lost.

The NAZA H is suitable for 450- to 700-size electric helicopters and supports different swashplate types. Regular receivers and Futaba S-BUS are supported. The user-friendly interface of the assistant software makes setting up the unit convenient and simple.

Thunder Tiger Raptor E550S ARF Helicopter @ $649.99 + S&H from Hobbico, 3002 N. Apollo Dr., Suite 1, Champaign IL 61822; Tel.: (217) 398-8970; website: www.ttamerica.com.

Thunder Tiger's new Raptor E550S is designed to get the pilot into the air fast by being 95% assembled out of the box!

Advanced electronics on the Raptor E550S are factory installed, as is the brushless power system that includes a 1150 Kv brushless motor and 80-amp brushless ESC, a TG7200 heading-hold gyro, high-torque, metal-gear cyclic servos, and a DS0606n digital tail servo.

The Raptor E550S also features a precise, responsive 140° eCCPM rotor head and belt-driven tail rotor. The airframe is two-piece carbon fiber with a large compartment for a 6S 5000 mAh LiPo battery. High-performance 550mm carbon-fiber main blades are also included.

With lightweight tailboom and reinforced boom support brackets, this helicopter has easy-to-install tail guides with a metal tailboom clamp. Nylon landing gear with low-profile aluminum skids makes landings look effortless.

A 6S LiPo battery and a radio system with up to six channels are required to complete this helicopter.

Hitec ePowerBox 30 Power Supply @ $109.99 + S&H from Hitec RCD, 12115 Paine St., Poway CA 92064; Tel.: (858) 748-6948; website: www.hitecrcd.com.

Hitec RCD is pleased to announce the new ePowerBox 30, 30-amp AC power supply. Designed to be used with Hitec H4, X4, X4 Eighty, or any other DC charger, it gives the right amount of juice with an input voltage range of 100 VAC to 240 VAC, and an adjustable output of 12 VDC to 18 VDC.

The ePowerBox 30 is ideal for all modelers and features dual 4mm output jacks and a backlit LCD screen that displays both voltage and amperage output.

ParkZone Mini Vapor BNF/RTF@ $79.99-$99.99 + S&H from Horizon Hobby, Inc., 4105 Fieldstone Rd., Champaign IL 61822; Tel.: (800) 338-4639; website: www.parkzone.com.

The ParkZone Vapor has gone mini! With a wingspan of 8.7 inches and flying weight of less than 1/3 ounce, the Mini Vapor is the perfect size to navigate small, indoor spaces.

With precise, fully proportional throttle, elevator, and rudder control, the Mini Vapor flies with a DSMX three-channel receiver and ESC with two servos and a 1S brushed coreless motor. The lightweight PET film covering, carbon-fiber fuselage rod, carbon-fiber

pushrods, and composite plastic/carbon-fiber wing structure make this small flyer durable.

The ParkZone Mini Vapor RTF comes with everything needed in the box, including a ParkZone MLP4DSM four-channel transmitter, a 1S 30 mAh LiPo battery, and a one-cell DC charger. The BNF version requires a minimum four-channel DSM2- or DSMX-compatible transmitter.

Jeti DS-16 Radio System @ $1,295 + S&H from Esprit Model, 1240 Clearmont St. NE #12, Palm Bay FL 32905; Tel.: (321) 729-4287; website: www.espritmodel.com.

The Jeti DS-16 is a revolutionary 2.4 GHz, digital 16-channel, frequency-hopping radio system considered to be one of the most advanced radio systems in today's market.

Featuring a solid CNC aluminum case with a fully integrated antenna and mini USB port for downloads and firmware updates, the Jeti DS-16 also includes a built-in speaker, headset jack, metal transmitter gimbals with Hall sensors and nine ball bearings for precise movement, and a 320 x 240 backlit display.

Built-in logical switches and integrated functions allow the pilot to program complex strings of control events with the flip of a switch. All switches and channels are moveable and assignable, so the pilot can program any stick, dial, switch, or slider with any output. Safety is enhanced with programmable and manageable sounds and alarms so that temperature, speed, battery voltage, and receiver battery capacity can be monitored.

Options on the Jeti DS-16 are unlimited, as is the use of the included onboard 2GB SD memory card.

Blade Red Bull BO-105 CB CX RTF Helicopter @ $69.99 + S&H from Horizon Hobby, Inc., 4105 Fieldstone Rd., Champaign IL 61822; Tel.: (800) 338-4639; website: www.bladehelis.com.

The full-scale Red Bull BO-105 CB helicopter is a highly modified 840-hp aerobatic machine capable of tumbling and performing aerial stunts. Now the modeler can feel that thrill with the Blade Red Bull BO-105 CB Coaxial Ultra Micro helicopter, available as a state-of-the-art RTF model.

The advanced 2.4 GHz technology allows multiple helicopters to fly at once, without interference. The computerized Piezo gyro gives control and stability, while the proportional rotor head servo brings smooth control response.

Officially licensed by Red Bull GmbH Austria, everything needed to get the Blade Red Bull BO-105 CB heli in the air is in the box, including four AA batteries for the radio and a 1S 3.7-volt 150-mAh 25C LiPo battery. Replacement parts are available through the Horizon Hobby website.

Revolver 50cc Gas ARF @ $429.99 + S&H from Great Planes Model Manufacturing Company, 3002 N. Apollo Dr., Suite 1, Champaign IL 61822; Tel.: (800) 637-7660; website: www.greatplanes.com.

If you want "bigger-is-better" performance with simple ARF assembly, the Revolver 50cc gas airplane is for you.

The self-aligning wings and stabilizers are easily removed and attach with joiner tubes and screws. Prehinged ailerons and elevators make assembly of the Revolver as easy as it is with .40- or .60-size models. The hatch, painted pilot figure, and canopy are also preassembled for easy installation.

With a 7 1/2-foot wingspan, the Revolver 50cc features factory-applied MonoKote and aluminum landing gear

and spinner. The simple, four-channel design makes radio setup a snap. In addition to a minimum four-channel radio, five high-torque servos and one or two standard servos, and a 50cc to 55cc gasoline engine are required for completion.

Ares Tiger Moth 75 WOT/RTF@ $64.99-$79.99 + S&H from Hobby Town USA, 1233 Libra Dr., Lincoln NE 68512; Tel.: (402) 434-5050; website: www.hobbytown.com.

The nano-micro size and low weight of the new Ares Tiger Moth 75 make this semiscale model perfect to fly in small, indoor spaces, while the three-channel throttle, rudder, and elevator controls offer maneuverability for flying outdoors in calm or light wind.

Weighing 14 grams, the Ares Tiger Moth 75's unique, lightweight airframe design is durable and assembles with magnets. The parts interlock for easy maintenance and repair without glue. Ready to fly out of the box, the model comes in a variety of scale finishes including authentic trim schemes, molded wing rib details, and a pilot.

The Ares Tiger Moth 75 is available as RTF or without transmitter (WOT). Both versions include a factory-installed receiver and onboard electronics, as well as a 50 mAh 1S 3.7-volt LiPo battery. The WOT version also includes a DC USB charger and is ready to bind to compatible Ares 2.4 GHz transmitters.

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AIR MEET 2012

FAMILY-ORIENTED EVENT DRAWS THOUSANDS OF SPECTATORS

HORIZON®

by Jay Smith

Ray Labonte approached me in late 2011 and shared his vision to have an event that would showcase RC aircraft, CL flying, helicopters, and RC cars. The event would be held in Maine at the Sanford Regional Airport and the community would be invited to attend.

The gathering would be as much for the spectators as it would be for the pilots. Ray understood that spectators are a key component in the future of our hobby. Although not all of the audience would become involved, having the community understand and appreciate what we do could go a long way toward ensuring that flying sites will continue to remain ours to enjoy.

There was much work to be done, and the event was still in the planning stages, but I committed to attend.

The Sanford Regional Airport had already supported a jet rally and was onboard with a bigger, bolder event in 2012. Knowing he needed the assistance of a major player in the industry, Ray approached Horizon Hobby with his idea of an all-encompassing event, while still keeping a jet focus. Horizon Hobby saw this as an opportunity to bring its successful Air Meet concept from Europe to the US. Ray's bold vision now had a name: Horizon Air Meet 2012.

Matt Chapman and his full-scale Eagle 580 put on a good show. Being an RC pilot as well, Matt enjoys flying at RC events.

Quique Somenzini used his JetCat-powered J-10 to show the crowd that he can hover nearly anything that flies.

Quique Somenzini and Seth Arnold fly in unison during the noontime air show. Seth has flown his way to first place with the Extra 300 at the last two Extreme Flight Championships.

The Event

I arrived at the venue on Thursday, September 6. Although I'm an airplane person, I was immediately drawn to the unbelievably awesome off-road car track! Having raced RC cars for several years, this was the biggest and best track I had ever seen!

My attention was diverted by the sound of a glow engine, not far from the car track. I saw a profile CL model in the air. No sooner had the flight finished, when I was offered the opportunity to pilot the profile P-51. I gladly accepted.

Following that, my focus was skyward, thanks to the unmistakable sound of jet engines that were powering an intimidating-looking A-10 Thunderbolt II. As I made my way to the flightline, I had no idea who was flying the model, but it was clearly a high-caliber RC jet jockey. Ali Machinchy turned out to be the pilot in command, and he made several excellent flights throughout the weekend.

At the flightline, I ran into my friend, Peter Goldsmith, who works for Horizon Hobby and was a key player in the Horizon Air Meet. Whenever I see Peter, he always has a nice aircraft with him, and today was no different. He had his T-33, which has competed at Top Gun.

Thursday was only a partial day and it provided a good opportunity to talk with some of the pilots and get the lay of the land, which also included a helicopter flightline.

On Friday, the event hosted 500 school kids who were brought in by bus to see a special performance by Matt Chapman in his full-scale Eagle 580. Matt put on a great show and it was nice to see the enthusiasm by everyone in the audience. Matt also took time to sign autographs and take pictures with the kids.

The youngsters spent some time watching the other modeling disciplines represented, then each received his or her own model airplane glider at the AMA booth before being loaded on the bus and returning to school.

While the car track mentioned earlier was being used by some of the top drivers in the sport and the runway was being used to launch and

Photos by the author

Peter Goldsmith's Skymaster T-33, powered by a JetCat P-120, has competed in Top Gun and made several flights throughout the event.

With the support of Brodak Manufacturing, Sandy Schmidt (R) and Ara Dedekian (launching the airplane) provided the opportunity for attendees to fly Control Line.

CD Ray Labonte (L) and Peter Goldsmith of Horizon Hobby discuss the noontime air show.

David Skillings spent a year building this detailed A-10 Thunderbolt that represents one flown by the Connecticut Air National Guard.

Two CARF Models Corsairs were flown at the event by the Malchione family. They garnered much attention thanks to their beautiful finish, folding wings, and the purr of the radial engines.

retrieve all types of jet aircraft, the spectators who wanted to participate were not left out. A small car track, complete with jumps, was available for anyone to try, and a separate flightline was set up to allow for the opportunity to fly the HobbyZone Stratos.

Realizing that once you have your first flight or get to drive an RC car for the first time that you might want one of your own, Ray and Robin's Hobby Center had a tent filled with all of the Horizon Hobby products any beginner or intermediate hobbyist could want. If that wasn't enough to entice the crowd, they were even offering discounts!

As is common at RC events, the Horizon Air Meet held a noontime show where the top pilots in attendance laid down some impressive flights on jets, warbirds, aerobatic aircraft, and even a turbine sailplane. Emcee John Redman kept everyone informed about the details of the aircraft they were watching perform. Matt Chapman and Rob Holland also participated with their full-scale aerial ballet.

Saturday also drew a large number of pilots and spectators. Although the wind was challenging, the flying and demonstrations went on as planned except for the Saturday night fireworks. The off-road car track hosted actual races and several different classes were run.

Saturday night was a banquet for the pilots and sponsors. It was held in the airport hangar, which was home to Air Force One on several occasions when former President George Bush visited his home in Kennebunkport, Maine.

The Horizon Air Meet was a huge success and provided an immersive experience for the entire family. It drew the most spectators I have ever seen at an RC event—an estimated 15,000—during the three days! Visitors had the opportunity to try driving or flying models and were able to purchase one to take home.

The pilots and drivers with whom I spoke also enjoyed the amenities that the facility offered, such as flying from an actual runway and driving on a large track, as well as sharing their passion with a large contingent of the community.

I haven't heard if there are plans for a 2013 event, but with the success this one garnered in Maine, I certainly hope it becomes an annual tradition!

—Jay Smith
jays@modelaircraft.org

SOURCES:

Horizon Air Meet
www.usairmeet.com

Ray and Robin's Hobby Center was set up on-site to ensure that attendees didn't go home empty handed. The tent was regularly filled with shoppers.

The off-road car track drew some of the top names on the racing circuit and was used for actual races on Saturday and Sunday. The raised driver's stand ensured that the vehicles could be seen anywhere on the track.

Between flights, aircraft were parked so that spectators could get a good look at the different models present.

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George Marenka executes the slow portion of his Carrier flight with his Clown and .15 engine. George has excellent control of throttled flight, in both Scale and Carrier.

Paul Taylor and Mike Palko pose with Mike's nice electric-powered Mustang. Mike's model is a sight to behold and often earns high scores from judges.

Alan Buck helps his grandson, Xander Mausteller, during the Ladies and Youth Basic Flight event. This is another example of families in modeling.

BRODAK FLY-IN

Sixteen years of flying in circles

by Allen Brickhaus

A total of 141 CL pilots and their families traveled to Carmichaels, Pennsylvania, for the 16th annual Brodak Fly-In, held June 12-16, 2012.

A whopping 626 scored flights were completed throughout the week, with a multitude of practice and fun-type models in the air over the six well-prepared circles most of the time.

John and Buzz Brodak graciously allowed this family of modelers to come to their home and spent the entire week ensuring that all was ready for the pilots. Brodak Manufacturing and Distribution Company provided the support to hold another fine event in the southwest corner of Pennsylvania.

I pulled into the parking lot at noon on Monday, June 11, and found that Tom Hampshire and the Brodak staff had the circles properly marked and ready for the following day's competition. The grass was pruned to a comfortable height for wheel pants on the Classic models. Perhaps one or two found the grass tough to take off from, but for the other 139 pilots, the surfaces were ready to go.

John Lindberg holds Tom Morris' Profile Cavalier for an official flight on the Advanced circle. Tom embraced the electric scene from dawn to dusk.

The Carmichaels Chamber of Commerce sign welcomed 141 CL pilots, their pit crews, and their families. It's great to get this much participation in a model airplane event.

John and Buzz Brodak take in the event while sitting in the gazebo beside their garage during the fly-in. They put much effort into making each event special for all of the participants.

Left: Sandy Bruce, head tabulator, takes some flying instruction from William Davis. This contest could not happen without the skills and tabulation work of Sandy, Anna Noska, and Charlie Ward.

Above: Joshua Harel brought his enlarged 1,600-square-inch Wild Bill Netzeband Fierce Arrow to the event, and Joe Gilbert volunteered to fly it.

The Thursday afternoon memorial service has been held in this area for the past three years. Plaques for aeromodeling notables are affixed to stones near the flag pole and lights.

The six circles were touched up at least three times during the week with early morning mowing.

The event opened Tuesday with four Control Line Precision Aerobatics (CLPA) classes of Profile Stunt competition. Intermediate tends to have the most competitors, and we decided to have the pilots fly in front of two sets of judges on two circles to save time and safely complete the flights.

Both scores were averaged on the respective circles, and then the two separate scores were averaged to finalize the list of winners. The competitors had to have two good scores to accomplish a win in this manner.

In the evening, John Saunders ran the Foxberg Racing event on the southwest circle. All flights concluded with daylight left to practice for Wednesday's competitions.

Wednesday focused on the four classes of Classic and Nostalgia 30 models. Models in the Classic category must have been designed before midnight on December 31, 1969. The Nostalgia 30 designs must be at least 30 years old from the date of the contest.

Each contest was flown based on skill levels, but the pilot had to choose in which event he or she was going to fly. At the end of the day, scores were distributed to whichever model age group the pilot flew in.

John Saunders again took the reins for Clown Racing at the end of the day. John Vlna got the Carrier Squadron going on the top of the hill at circle six, and he got the first flights off in the late morning.

On Thursday, Old-Time Stunt (OTS) allowed the pilots to choose to fly either Phase One (those with no flaps) or Phase Two (those with flaps) at the start of the event. As with Classic and Nostalgia 30, the scores were split between the pilots' respective choices at the end of the day. Only Intermediate, Advanced, and Expert skill classes were flown. There is no Beginner OTS at the Brodak event.

The crème de la crème of pretty Stunt models made their way to the front lawn at 3 p.m. for the Appearance Points session. At the same time, Ladies and Youth Basic Flight began on the Advanced circle at 3:30 p.m. John Brodak and his crew began the Scale Static judging shortly after noon.

A 5 p.m. memorial service to honor

those CL modelers who have passed away since the summer of 2011 was well attended. Immediately after the memorial service, Ken Armish jump-started the Junk Yard Wars building session.

Many Scale models were flown on Thursday evening, and more were flown by Friday night. Fun, Sport, Profile, and 1/2A Scale dominated the asphalt circle on the top of the hill.

Scale flying and the first round of CLPA Stunt continued Friday, with all four skill classes flown in front of four pairs of judges. Speed Limit Combat began and had 18 pilots to fill the matrix with event CD Phil Cartier completing the contest shortly before dinnertime. Nearly everyone settled down to view the flying portion of the Junk Yard Wars and all had a great time.

We cannot forget the individual flights with strange, unique models, such as those flown by Joshua Harel and his "Wild" Bill Netzeband 1,600-square-inch Fierce Arrow, and Ed Mason and his flock of B-17s, a B-29, and his C-124. Dan Banjock put in attention-getting flights with his Dyna-Jet Stunt model, his double-size Bi-Slob, and his double Fox .35 (now a .70) Bearcat.

Buzz Brodak and her helpers served more than 200 people at the banquet on Friday night. This annual meal, sponsored by Brodak Manufacturing and Distribution Company, is a nice addition to the contest.

Saturday was the culminating day for the event, and we had all classes flown and trophies handed out by 2:45 p.m. Visit the Brodak website and search for the final placements for the week's competitions. This comprehensive list makes for good (but long) reading.

My thanks go to John and Buzz Brodak for their work to make this a wonderful annual event, and for allowing me to help them accomplish the goal of a good week.

Tom Hampshire is retiring from the contest this year after 13 years of service. He has been a joy to work with, and I treasure his counsel, advice, and support these past years. We look forward to him bringing his grandchildren to the event next year.

The event directors, judges, pull testers, food-stand servers, and general maintenance staff during the week, were polite and efficient.

The long list of workers is daunting, but I appreciate everyone who helped make this event one to add to the bucket list of places to go and have a great time. Sandy Bruce, Anna Noska, Charlie Ward, and Tom Noska quickly solved any problems during the week.

Mark your calendars for the five days before Father's Day in 2013 for the next outing in southwest Pennsylvania. See you there!

—Allen Brickhaus
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SOURCES:

Brodak
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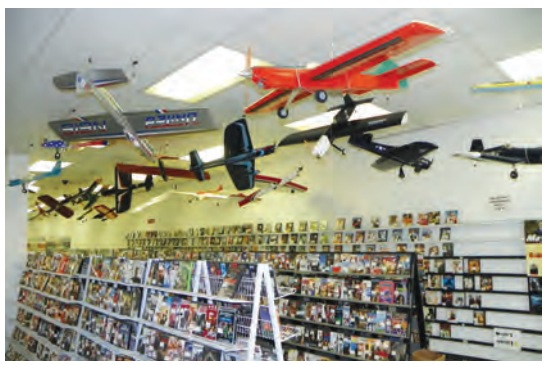
Photos by the author



Completed model kits hang above the video section of John's Hobby Store. This is the view as you enter the Brodak Hobby Shop.

Mark Weiss carries Tom Smeltzer's Pathfinder back to the pits. Mark did an excellent job of helping set up the CL circles at the 2012 Joe Nall Week fly-in.

Eric Keller relaxes between rounds with his Viking on the Intermediate circle at the fly-in. The eye-catching Viking might be a future project for the author.

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The world's first "full-house" Control Line model

Miss Shirley

by Michael Smith

Oba St. Clair in his shop in 1960. Below: The Miss Shirley with a very young Shirley St. Clair.

A reproduction of the Miss Shirley was constructed by museum volunteer Scott Cheslik.

Museums are treasure troves of amazing, and often unique, pieces of our cultural heritage. They preserve these pieces so that we might learn how the world has developed and changed.

On rare occasions museums get the opportunity to share these fantastic items with visitors, as well as provide a venue so that those originally involved can share their experiences.

On July 20, 2012, the National Model Aviation Museum in Muncie, Indiana, held the first of what is hoped to be many such events. A reproduction of the first documented CL model airplane to be built and flown, Miss Shirley, was unveiled.

On hand for the event were Shirley St. Clair, daughter of Oba St. Clair, the original designer and builder; CL world champion, former *MA* editor, and editor of *Stunt News*, Bob Hunt; and well-known CL builder and manufacturer, Tom Morris. Noted CL historian, Charles Mackey, joined the program via Skype and offered his unique perspective about Oba St. Clair as highlighted in his book, *Pioneers of Control Line Flying*.

The presentation is available for viewing on the museum's website, listed in "Sources."

Born in 1912, Oba, like so many others of his age, was inspired by Charles Lindbergh's flight. Aviation excited him

and at the age of 15 he built his first model, a rubber-powered airplane covered with butcher paper.

Other models followed, but it was an advertisement for a Brown Jr. engine and a construction article for a model of the Berliner/Joyce fighter in *Modern Mechanics and Invention* magazine (August 1935) that really excited him. Plans for the Berliner/Joyce were reprinted in the February 1977 issue of *Model Builder* magazine.

Oba started construction on the model immediately, while saving money for a Forster Model A engine. As he neared completion, the realization of his project hit him: he was building a FF model in the woods of Oregon. His creation would most certainly not survive.

Feeling that the solution was to fly the model around in a circle, Oba attached a fishing line to the left wing and set the airplane's controls to turn right. He also designed an engine shut-off system that would cut the engine upon landing.

Oba cleared and leveled an area next to his home, creating his own flying field. Using a fishing pole to keep the line straight, he made his first flight in June 1936. Although the flight was successful, experimentation led to improvements. Oba noticed how the airplane climbed when it flew into the wind and descended as it flew downwind. He determined that the solution was adding more lines, allowing him to actually operate the model's control surfaces, just as on a full-scale airplane.

At first Oba was going to modify the Berliner/Joyce, but as it neared winter he decided to continue to enjoy flying his model and construct a new airplane. The new model had an 8-foot wingspan, weighed 10 pounds, and was constructed from spruce and balsa and covered in silk. Named Miss Shirley after his newborn daughter, it first flew on July 4, 1937.

Miss Shirley featured ailerons, rudder, elevator, and throttle control and was flown using a four-line system Oba called "full-house." He had no metal lines, only fishing line, which he found stretched in an uneven manner.

Oba's next step was to devise a control handle that would eliminate the uneven line slack. The result was a large and cumbersome handle with four poles and a joystick. The poles took up the uneven line slack, yet still allowed Oba to control the aircraft. He knew that this system would have no commercial applications; safety was his main concern.

Photos as noted

(L-R) Bob Hunt, Tom Morris, Michael Smith, Shirley St. Clair, Scott Cheslik, Don Sanqunetti, and Alan Hokenson at the Miss Shirley presentation. Photo by Gene Martine.

Word of Oba's airplane quickly spread and on July 15, 1937, the *Telephone Register* newspaper of McMinnville, Oregon, ran a large spread with photographs of Oba's CL design. Several articles also appeared in model airplane and science magazines. In 1939, the Union Oil Company came and took pictures for a monthly employee magazine.

Although Oba's achievements with the model are significant in their own right, Miss Shirley also played another significant role in the history of CL models.

In 1952, Jim Walker (whose company, the Junior American Aircraft Company, played an important part in the development of CL models), filed a patent-infringement lawsuit against the L.M. Cox Manufacturing Co., Inc. over the use of a bellcrank. Roy Cox heard about Oba's flight and refused to pay royalties to Walker when he began to produce his COX TD-1 model airplane, believing that Walker's patent on the bellcrank was not legal.

In 1955, the case was finally heard and Oba supplied Cox with dated pictures, newspaper articles, and even Miss Shirley, as evidence. The judge's decision ruled in favor of Cox, and with Walker's patent ruled null, the marketplace was quickly flooded with a wide variety of new CL aircraft.

For the National Model Aviation Museum, this important milestone in the history of CL aeromodeling had to be documented for visitors to see. With the help of Shirley St. Clair, museum volunteer Scott Cheslik accepted the challenge of building a reproduction.

Shirley supplied some construction drawings, along with photographs of the original model, which proved extremely valuable as Scott strove to duplicate the original as accurately as possible.

As construction neared completion, additional assistance was provided by museum volunteer Don Sanqunetti, who constructed the main landing gear and tail wheel; Alan Hokinson, who assisted with the dummy engine; and Gary Bussell, who lent his painting expertise.

If you are interested in learning more about Oba St. Clair and Miss Shirley, Oba's biography is available online as part of the Museum's History Program. The link is listed in "Sources."

Additional information about Oba is also available on Shirley St. Clair's website. The drawings that Scott used to build the Miss Shirley are available through the AMA Plans Service.

—Michael Smith
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Miss Shirley
www.modelaircraft.org/museum/missshirley.aspx

Oba St. Clair History Program Biography
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Oba St. Clair: Father of Control Line Flying for Model Aviation
www.obastclair.com/index.html

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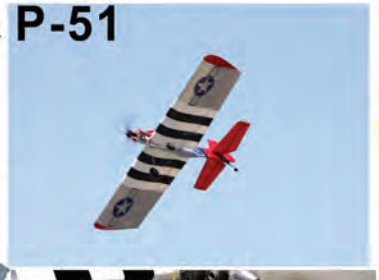

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FLIGHT Circle

DISNEYLAND WAS ONCE A MAGICAL PLACE FOR A FEW LUCKY CONROL LINE PILOTS

by Rachelle Haughn

The children jump to their feet when the first propeller starts spinning. As the second engine whirs, their pupils enlarge and they no longer hear the music or the squeals of joy that surround them. Then a third engine starts … wait, a third? Yes, that's right. But how could he fly the third airplane when he only has two hands?

The youngsters peer through the holes in the metal fence, curl their fingers around it, and strain to see what the pilot in the blue trousers and white shirt will do next. Then, he puts something in his mouth. Within minutes, the young man is flying Combat with three airplanes.

These were magical days.

Bart Klapinski remembers days such as these. What others can only view in black-and-white videos and photographs, he has ingrained in the back of his mind. He can still hear the roar of the crowd as his airplanes take flight, feel the breeze created by the lightning-fast tether cars, and smell the gasoline expelled from the model boat engines. He was a pilot at the Disneyland Flight Circle—an attraction that closed more than 45 years ago.

Two Flight Circle pilots start a tether car. Photo courtesy of David Eppen via gorillasdontblog.blogspot.com.

The Disneyland Flight Circle was located in Tomorrowland, next to the Rocket to the Moon. The Flight Circle was designed to resemble a compass. In this photo, one of the attraction's employees appears to be starting a tether car. © Disney.

Bart is now 70 years old and resides in Tuscon, Arizona. He began working at the Flight Circle in 1961when he was approximately 18 years old, and stayed until it closed in 1966. "I flew there for quite a while and it was quite an experience," he said. "I flew for Cox Manufacturing. We flew the Camachi, the Lil' Stinker, the Curtiss Pusher, Super Cub models for Combat, [and] Cox P-40 Flying Tigers."

Disneyland Park, located in Anaheim, California, opened in July of 1955, and the Flight Circle, located in Tomorrowland, launched that fall. Tomorrowland also included attractions such as Rocket to the Moon, the Aluminum Hall of Fame, the Color Gallery, The World Beneath Us, the Phantom Boats, Astro-Jets, and Autopia.

Bart flew this Cox Lil' Stinker, which he still owns, in the Flight Circle.

Walt Disney wanted the Flight Circle to be included in his new theme park because he loved hobbies. Although other attractions around the Flight Circle closed throughout the years, Walt was firm in his decision to keep this one going.

The Flight Circle resembled a giant compass, and was surrounded by a chain-link fence. Inside the fence, there were tables on which to repair and tweak the models, a shallow pool of water for model boats, painted runways for tether cars and airplanes, a carrier deck, an air-speed timer, and a chair for the announcer.

Disneyland Park visitors viewed the show from outside the fence. In the beginning, there were benches for them to sit on, but those were later replaced with chairs.

A conceptual drawing of the Flight Circle—which includes the depth of the pool (12 inches), the painted runways for the airplanes and tether cars, and the height of the fence (7 feet, 11 inches)—was donated to the National Model Aviation Museum in 2002 by Anita Storey, wife of Keith Storey, who served as AMA president from 1953 to 1956.

The date of the drawing is August 9, 1955, and shows that the Flight Circle would be built near the Court of Honor, an exhibition building, and Rocket to the Moon. Keith became associated with Walt Disney Studios in Burbank in the 1950s.

In the beginning, the Flight Circle was staffed by model airplane clubs such as L.A. Model and Hobby Club and the First All Speed Team (FAST) club.

The FAST club was founded by Keith. He became a

Bart owns this Mercedes Benz tether car prototype, which is similar to one he operated in the Flight Circle.

Disneyland employee and performer in 1955. For two years, he flew eight shows a day, seven days a week, and was in charge of hiring the crew, setting the routines, announcing, and flying, according to his AMA biography.

A video of *Hobbyland*, which showed the daily events in the Flight Circle, also was donated to the museum by Anita. In the black-and-white video, Keith, who passed away in 1999, is listed as a character named Gabby.

A lack of scheduling demonstrations and organization by the clubs prompted Disneyland officials to approach Wen-Mac hobbies about operating the attraction. Wen-Mac staffed the Flight Circle, and its products were used in the shows. Unfortunately, Wen-Mac was unreliable.

In approximately 1957, L.M. Cox Manufacturing Company took over operations at the Flight Circle—staffing it with the company's employees and renaming it the Cox Thimble Drome Flight Circle. Thimble Drome was a line of tether cars and Control Line airplanes manufactured by Cox.

Bart, who was hired by Cox, said there were shows every day on the half-hour, from the time the park opened until dusk. "We put on, one time, 10 shows a day."

And when the man who created Disneyland, Walt Disney, stopped to watch (as he often did), the shows were roughly 10 minutes longer. After the special shows, Bart had the opportunity to briefly talk with Walt and meet his guests. He said flying for Walt was one of the highlights of his time in the Flight Circle.

The shows included flying CL Combat and aerobatics, and operating tether Corvettes and Buicks and model boats.

Bart owns a Mercedes Benz tether car prototype similar to one that was operated at the Flight Circle. He also kept a prop-rod car that was operated at Disneyland, but he believes it was stolen while he was moving to Phoenix. "It was a pretty rare car. People loved it," he said of when it was operated at the theme park. The car was partially powered by a propeller.

"There was something on a track about all the time," Bart said of the Flight Circle, adding that his main responsibilities were flying the airplanes and serving as emcee.

"At one time, we had eight cars zipping around the circle. That was quite exciting," he added. The cars

Bart Klapinski poses with model airplanes and tether cars that he had operated at the Disneyland Flight Circle on its last day of operations. Photo by Lee Heinly, courtesy of www.davelandweb.com.

were attached to wire, which was connected to a peg.

One of the most popular parts of the daily shows was the dogfighting with three CL airplanes. Bart owns three of the original P-40 Flying Tigers that were used at the Flight Circle.

"Keith Palmer was the first guy to fly three [P-40s] at once. It took me a year to learn to fly three." To do dogfighting with three airplanes, Bart held one in each hand, and had a special handle and mouthpiece that he used to control the third airplane with his mouth. He still has that handle.

The pilots also gave the audience a chance to get involved in the shows and learn about model airplanes. Bart said that during each performance, a child from the audience had the opportunity to fly a PT-19.

He added that the enthusiastic crowds made his job worthwhile. "[During] the shows on Saturday evening after dark, there was [always] a big, lively crowd."

"We had a pretty good team. Things happened pretty quickly. It was hard to go home [after a long day] and build airplanes and practice. It was rewarding when we had a really good show."

Not every show was perfect. Sometimes the pilots had trouble getting engines started.

Bart remembers the day someone was flying a Camanche with at 25-foot line and the bellcrank was not working correctly. The airplane got away from the pilot, hit the fence, and wedged in the fence surrounding the circle. "It almost hit a gal in the nose. She had a bunch of packages. It looked like a bunch of popcorn flying," Bart said with a laugh.

After the shows ended, audience members could take a little piece of the Flight Circle home with them. A hobby shop near the Flight Circle sold Cox airplanes similar to those flown in the shows, along with slot cars.

As the years passed, the crowds became smaller and the Flight Circle was open fewer hours. By late 1965, only Bart and one other person worked at the Flight Circle. The Cox crew learned that Tomorrowland would be redesigned.

When the Flight Circle closed, Bart decided he wanted to continue working at "the happiest place on Earth."

"I knew the Flight Circle was going to close. So, I went and applied for a job [at the hobby shop], located south of the Flight Circle," Bart said. "I was selling a lot of those [Cox] flight trainers," he added.

Bart demonstrates how he flew Combat with three CL airplanes at once while working at the Flight Circle. He controlled one of the airplanes with special mouthpieces—one was made of steel and another was aluminum. Rickii Pyatt photo.

These are some of Bart's mementos from his days in the Flight Circle. He flew these three Cox P-40 Flying Tigers, with inverted engines, plastic wheels, and Flying Tiger emblems. Pyatt photo.

Bart later worked as the manager of the one-of-a-kind shops at New Orleans Square, which sold hats, Christmas items, perfumes, etc.

Today, Bart has few mementos to remind him of his days as a Flight Circle pilot. However, time has not erased his love for CL.

He continues to compete in CL and is an AMA Leader Member and CD. He first competed in CL in 1959, and placed third in an Old-Time Stunt contest last year. He competed in the Nats when it was held at different locations across the country.

He has been building an airplane every day after he finishes working as a school bus driver, and hopes to begin competing more.

—Rachelle Haughn
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www.davelandweb.com

Cox Models
www.coxmodels.com

AMA History Program
www.modelaircraft.org/museum/history.aspx

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A Piaggio-inspired park flyer

Photos by the author

Before I discuss building the SkyTwin, I should explain my reasons for designing, building, and flying such an aircraft.

I have always been fascinated by the World War II P-38 Lightning, and the fact that it had twin engines with counter-rotating propellers. The big advantage of this configuration is that the torque effect produced by each spinning motor and propeller is canceled out by the other.

It took some time to become accustomed to the fact that when flying a single-motor RC aircraft, some rudder is needed at takeoff to counter the torque effect. In doing a little flight training in a full-scale, single-engine aircraft, I noticed that the airplane never flew straight. That is similar to the performance of the RC version. Even on a calm day, it could never travel in the direction that the nose was pointed.

With the new outrunner brushless motors, it is easy to wire a twin-powered RC aircraft for counter-rotating propellers and achieve straight flight. (That was my incentive.)

I also liked the idea of a pusher design because it puts the propellers out of the line of sight, at least for most of the passengers and both pilots. My design is a commuter-style aircraft.

I am also intrigued by the Italian Piaggio aircraft, which is a twin-pusher design. With a high elevator mount, the elevator should see cleaner, less-turbulent air because the propellers are below it (hence the T-tail design).

Without further explanation, let's build the SkyTwin.

Tail Feathers

I like to begin with the tail section, because it is easy to build and gets me back into a building mindset after a few months of not building. Lay a piece of wax paper over the plans for the horizontal stabilizer and the vertical stabilizer. Lay the $^{3}/_{16}$ x $^{3}/_{8}$ strips over the plans for the vertical stabilizer and the horizontal stabilizer, and cut all of the pieces to length. Correct the angles with a razor or draw a thin line and cut them on a scroll saw.

When all of the pieces have been cut, pin them to the plans and glue each joint (Figure 1). Note that the $^{3}/_{16}$ square balsa strips can be made by cutting the $^{3}/_{16}$ x $^{3}/_{8}$ balsa in half.

When all of the joints have dried, mark where the hinges will be located and draw a centerline so you can cut a slot for the hinges that you will later epoxy into place. I use a cutoff blade on my Dremel tool to make the slots and it works well.

Sand the edges of both of the stabilizers


FIGURE 1

and the front edge of the rudder and elevator so they don't bind when these surfaces move up and down or from side to side. Sand the TE surfaces of both the rudder and the elevator.

Before you glue the horizontal stabilizer to the vertical stabilizer, make a 1/8-inch groove for the pushrod housing as the plans show, and test-fit the pushrod housing to make sure the groove is deep enough.

Glue in the top pieces above the horizontal stabilizer. When this has dried, push the pushrod housing through the groove and epoxy it into place. After that has dried, sheet both sides of the vertical stabilizer with 1/32-inch balsa sheeting (not shown in photo).

Wing

Cut out all the parts for the entire SkyTwin first, and note that the wing's TE must be notched. From the TE, the ailerons are also cut and then beveled, to allow for pivoting. Slot the aileron and TE for hinges as shown on the plans.

Align the two wings (Figure 2) by spacing them 3 3/4 inches apart, and then lay wax paper on the plans so that the bottom spar, TE, motor mounts, and ribs can be pinned and glued into place. Note that the ribs are cut to add some washout to the wingtips, so the outer end of the wing at the TE should be spaced up with a scrap of 1/8-inch balsa (Figure 3).


FIGURE 2

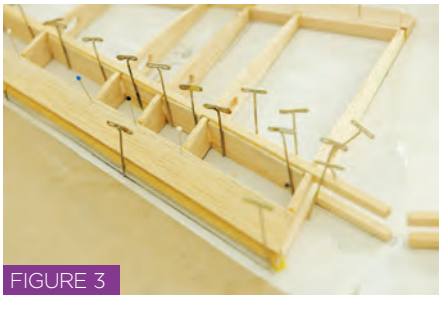
FIGURE 3

Glue in the upper spar to both left and right wings, then glue in the 1/4-inch round dowel LE into the front of all ribs. Hold it in place with pins, and when that has dried, glue in all of the spar web pieces, which are cut from 1/16-inch balsa sheet, as shown on the plans. Glue in *only* the rear part of the 3/4 x 1/16-inch balsa strips that are glued to the top of the LE. When that has dried, the front part can be bent down and glued in place along the LE and to each rib.

Fill in the bottom of the wing with 1/16-inch balsa, as shown on the plans, between R1 and R2, and then between R2, and R3.

When those pieces have dried, glue in the R3 and R4 doublers. They should total 1/4-inch thickness, so either glue two pieces of 1/8-inch balsa together, or cut them from 1/4-inch balsa. The motor mount gussets can also be glued in during this step (Figure 4).

The oak landing gear blocks and the winglets have been glued in place (Figure 5). Use the rear fuselage fin-spacing templates to get the angle as shown on the winglets. Note that the entire wing is still flat on the building board.

When this has dried, remove the wing from the board and sand the LE to the correct shape. In this step, build the motor covers. You can build them directly over the motor mounts; just make sure to put wax paper over the motor mounts. Fill in the gap between the winglets and the top surface of the wing. You will have to sand on a 25° angle to get them to fit.

The wing halves have been joined together (Figure 6). Lay the two wing halves directly over the drawing. Space up R1 on both sides exactly 5/16 inch. I used a 5/16 round dowel to do this. Lay a VHS tape flat over the wing drawing, so that its edge is directly over the 10° dihedral line. This will space the wing up exactly 1 inch.

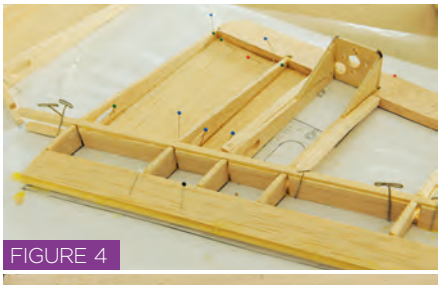
FIGURE 4


FIGURE 5

Pin the wing halves to the board, and glue in the three wing joiners. Note that the front wing joiner will need to be sanded to match the front of R1 on both sides. When this assembly has dried, glue in the rear wing triangular wing mounts. When that has dried, remove the pins from the wing, and fill in the space between the front and rear wing joiners with the 1/16-inch balsa, noting that it curves on the bottom to meet the joiners.

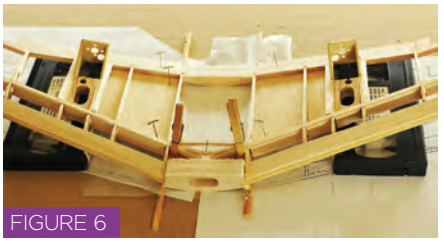
FIGURE 6

The next step is to glue in the aileron servo mounts (Figure 7). Make sure to glue in both pieces A and B on left and right wing sides, and be sure that part B is flat with the bottom of the wing.

All of the wiring has been installed in the wing (Figure 8). Make sure to solder the wires as shown in the wiring diagram, and add silicone over the solder joints to prevent shorting. Make sure you have also installed the aileron servos, with either small screws, or with epoxy.

The servo arms must also be installed at this point. You will want to check their position with your radio on. They should point straight down when the radio is in the center trim position. You will have to cut off the small tabs at the rear of the last outside ribs; the tabs


FIGURE 7


FIGURE 8

hold in washout.

Now the wing can be covered. Be careful not to introduce any twist into the wing; it has built-in washout.

Fuselage

Beginning with the nose piece, cut the balsa block as shown on the plans so the profile looks like all three views of it. Glue the two balsa blocks together. Cut out the balsa to create the cooling hole in the center and the 1/4-inch diameter holes for the mounting on both sides. Although not shown on the drawing, notch the bottom part so the nose gear doesn't interfere when the landing gear is installed on the front of F1.

Pin F1 to your flat building board, face down, then glue the instrument panel to the top of F1. When that has dried, glue the front sides of the fuselage to F1. Note that the rear of the fuselage is straight up. Pin along the sides of the front of the fuselage where it is glued to F1 to hold curvature (Figure 9).

The rear fuselage section is complete (Figure 10). Pin F5 to the table, and then glue the rear fuselage sides to F5, holding curvature with plenty of pins. F6 and the elevator servo mount should also be added.

Formers F2, F3, F4, and F5 have been glued into the front fuselage section (Figure 11). Use elastics to hold them in place around the outside of the fuselage.

Take the remaining pieces of the 3/16 x 3/8 balsa strips, and cut them in half lengthwise, with your scroll saw set at 30°. Glue these in and hold them in place with pins (Figure 12). Do this to both sections of the fuselage.

Glue the front and rear fuselage sections together, holding F5 formers together with clothespins. Make sure that the top of the rear and front sections form a straight line, so that the fuselage top section can be glued on. Glue in the windshield header piece and make sure that the 45° front cut is correct as shown in the plans.

The top of the fuselage should be glued in place (Figure 13). It is held with pins and elastics around some of the formers. The front of this piece is held down to the windshield header with multiple clothespins. Attach the nose piece to F1 with the attaching screws and sand it to shape.

Drill and tap the #10-24 holes *before* you cut out the oak rear wing mounts, otherwise, the oak will break out. Glue them in place and hold them level with pins. Glue in the oak front wing mounts. Notice that the position is shown on the cutout pattern for the fuselage sides.


FIGURE 9


FIGURE 10


FIGURE 11

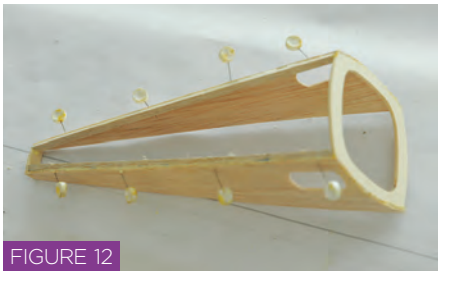
FIGURE 12

Glue in the rudder and nose wheel servo mount as shown on the plans. When it has dried, screw the servos to the mounts and secure the pushrods with balsa pieces (Figure 14). These balsa pieces will vary from model to model, depending on servos used, so they are not shown on the drawing.

Use epoxy to glue in the pushrod sleeves. Make sure the pushrods for rudder and elevator move freely. It is important to replace the thicker pushrod for the elevator with the smaller-diameter music wire. The thicker one that comes with the Du-Bro pushrod is not flexible enough.


FIGURE 13

After the servos have been installed, cover the bottom of the fuselage with the balsa pieces. Glue along the edges of the fuselage side pieces before you glue in the bottom pieces so that you can sand a nice, big radius later.

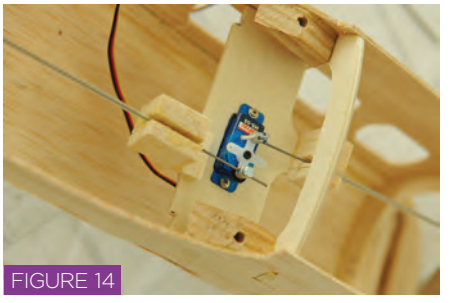
FIGURE 14

It is fine at this point to install the battery in the front of the fuselage. Hold it in place with a nylon tie through the bottom of the fuselage.

Although not shown in photos, this is an excellent time to glue in the two rear fins. Use the spacer template on the plans to hold the correct angle.

Seat Assembly

This step is optional, although it *does* help move the CG forward. Put the seats together (Figure 15). I used a piece of 1/8 round dowel and drilled a hole in the seat backs to hold them together. I made a floorboard from scraps to mount the seat bases.

I had to notch the bottom of the copilot's seat base to allow for nose wheel pushrod clearance. You can do this notching step later.

FIGURE 15

Clark Salisbury's **SKYTWIN** SPECIFICATIONS

Type:	RC park flyer
Skill level:	Intermediate builder; intermediate pilot
Wingspan:	46 inches
Length:	35 inches
Weight:	32 ounces
Motors:	E-flite 370 1080 Kv brushless outrunner
ESCs:	Two Scorpion 25-amp brushless motor speed controllers
Propellers:	APC 8 x 6, APC 8 x 6 EP pusher
Battery:	Venom Power three-cell 1300 mAh LiPo
Radio:	Three channels, four HS 55 microservos
Construction:	Balsa, plywood
Finish:	MonoKote

Final Assembly and Covering

Install the motors into their mounts on both sides of the wing. Because the motors counter rotate, wire the three wires differently on the left side as compared to the right side. Looking at the airplane from the rear, my right motor turns counterclockwise and the left motor turns clockwise. I am not sure if doing this opposite would make any difference.

Make sure you mount the propellers so the airplane has forward thrust. Do *not* have the propellers installed during the radio setup process. Install them after the wing is covered.

The propellers should be installed with the writing side (on the center of the propeller) facing the front of the aircraft. After all of the wiring is completed, check to ensure that the propellers turn at the same speed through the entire range of throttle settings. If they don't, you can swap propellers or speed controllers, or try different combinations of wiring to the motor, changing the three wires to each motor.

It is important to check the speeds before flight. You could have asymmetric thrust during flight, which is difficult to correct.

After everything has been tested electrically, epoxy in the hinges and cover the entire wing assembly. The fuselage and tail section should be covered separately, then glue in the tail section.

The hinges can be epoxied into the wing where they stick through the balsa so there is no danger of getting any epoxy in the hinge pin. This same process can be used on the rudder and elevator hinges.

After you slide the covered control surfaces (rudder, elevator, ailerons) over the hinges, drill a small hole in the bottom of the control surface through the nylon hinge and fill that hole with epoxy.

Flying

The SkyTwin is not a trainer. It is a fast aircraft with aerobatic capability. It requires at least 200 feet of smooth runway for takeoff. Its flight is smooth, even at high speeds, and the airplane is capable of all maneuvers. Rolls are not fast, and the pilot should allow a good margin for error (altitude) before attempting them.

Tight loops are not recommended because they can stress the horizontal stabilizer. The airplane should be brought in for landing with some throttle to avoid stalling. It penetrates a slight breeze well.

During my test flight, I found that pushing the SkyTwin beyond 7 minutes with the 1300 mAh three-cell LiPo battery pack that I recommend is not a good idea. I saw some variation between left- and right-motor speed. Both motors spin the same speed for less than 7 minutes. I verified it with a tachometer.

Have fun! The SkyTwin is pretty to watch in flight, especially on a sunny day with the light coming through its transparent wings.

—Clark Salisbury
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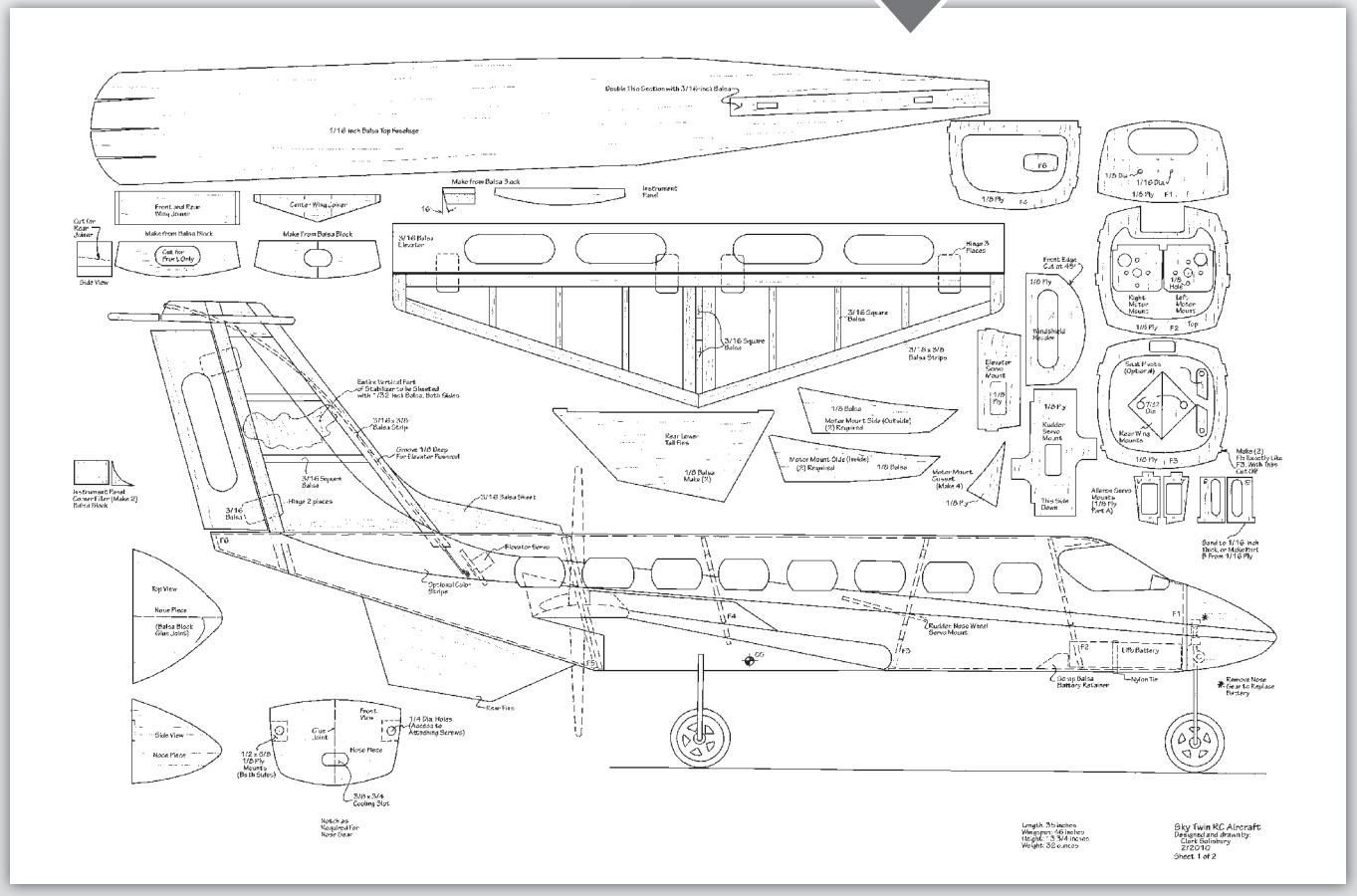
SOURCES:

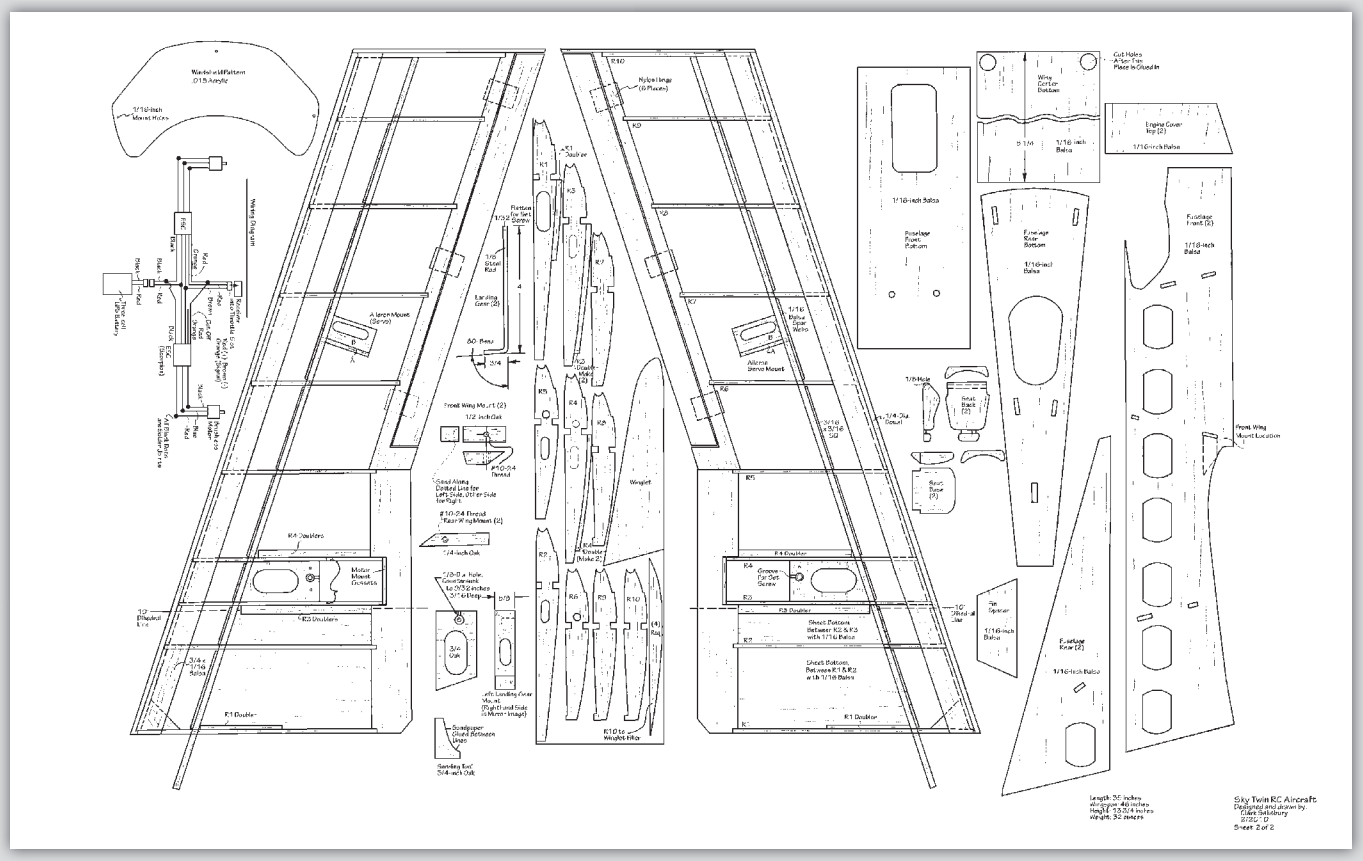
Innov8tive Designs
(760) 468-8838
www.innov8tivedesigns.com

Clark Salisbury's

SKYTWIN

Full-size plans are available!
See page 153 for an order form, or order online at *www.modelaircraft.org/plans/plans.aspx*





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HORIZON HOBBY HANGAR 9 TAYLORCRAFT BNF

Tom Sullivan
tmsullivan@roadrunner.com

This Taylorcraft certainly isn't a one-trick pony. On low rates, it's a great trainer. On high rates, it becomes a high-energy aerobat. It's an eye-catching, Fun Scale, IMAA-legal model.

A perfect first model for those new to gas power

I'm occasionally asked for a recommendation of a first model for someone new to gas power. There are several ARFs out there that will work nicely, but figuring out what engine to match up to them isn't always the easiest choice.

The Taylorcraft Bind-n-Fly (BNF) from Hangar 9 looks to be the answer to this question. Although it's not quite ready to fly, most of the work is done for you and it even includes a Spektrum flight pack and Zenoah G-26 engine.

The clipped-wing Taylorcraft is a great subject. Because it's a Scale model, it grabs my interest right away. What's more, it is also modeled after a specific full-scale model (N-number N6115 created by Jim Moss). The full-scale Taylorcraft makes a great air show performer, with stable and forgiving flight characteristics.

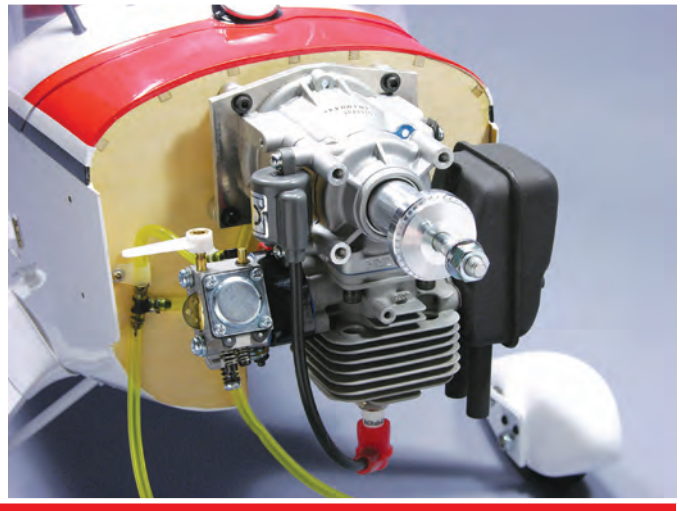
Let's put this Taylorcraft together and get it airborne! After unpacking the box and taking the parts picture, I took a moment to examine what I had. To my surprise, this kit is complete. With the exception of a few hand tools, a couple dabs of silicone, and some threadlocker, every other conceivable part, piece, and accessory is included. Yes, everything—all the clevises, control horns, hardware, fuel tank, tubing, engine, muffler, propeller, aluminum spinner, wheels, pilot, and more. It's all in the box, and nearly everything is preinstalled.

The radio is installed and the extensions for the aileron servos are already in the proper place. All of the control hardware is in place, and the control surfaces are prehinged and installed. The few pieces that aren't preinstalled have the proper holes and hardware ready to aid in assembly. Horizon's design team must have worked overtime on the Taylorcraft BNF.

The airframe is constructed from laser-cut plywood and balsa. Everything is covered in UltraCote iron-on covering that faithfully matches the full-scale Taylorcraft. There were a few wrinkles, so I took a few minutes with the iron to smooth them.

Up front, the fiberglass cowl is prepainted and matches the UltraCote

Above: A high amount of preassembly at the factory leads to a low parts count for the Taylorcraft. Everything you see here bolts together in just a few hours.



Right: Included with the kit is the Zenoah G-26. All of the holes are predrilled and the fuel lines are preinstalled, so installation is a snap.

AT A GLANCE ...

SPECIFICATIONS

Model type:	Semiscale BNF
Skill level:	Intermediate builder/ intermediate pilot
Wingspan:	80.5 inches
Wing area:	1,150 square inches
Airfoil:	Semisymmetrical
Length:	63.6 inches
Weight:	14 to 14.5 pounds
Power system:	Zenoah 26cc gas engine (included)
Radio:	Six-channel radio
Price:	$1,279.99

TEST-MODEL DETAILS

Engine:	Zenoah 26cc gas engine (included)
Propeller:	16 x 6 Evolution
Radio system:	Spektrum DX18 radio, Spektrum AR8000 receiver (included), six Spektrum A6000 digital servos (included), five-cell NiMH receiver battery (included)
Ready-to-fly weight:	14.25 pounds

Flight duration: 25 minutes

PLUSES

- Quick assembly.
- No gluing necessary. The only adhesive used is a small amount of silicone to secure the landing gear fairings.
- All radio equipment is factory installed.
- The engine is included. It's not premounted, but it bolts on quickly.
- All hardware and accessories are provided, including the propeller and spinner.
- The cabin door provides easy access to the interior of the fuselage.
- Two-piece, plug-in wing with aluminum wing tube.
- Clever engineering allows the entire tail section to mount to the fuselage using only four bolts.

MINUSES

- Location of the engine ignition cutoff switch.
- Vertical fin struts snapped in flight.
- A pilot figure is included, but it's too big for this model.

well. There's a lot of molded-in detail with all the scoops and louvers. Also, there are several precut holes that should align with protrusions on the engine.

Sometimes a weak point in many kits is the landing gear. I don't think that will be a problem in this Taylorcraft. The main gear is made from $^{3}/_{16}$-inch steel and supported by a heavy-duty $^{5}/_{16}$-inch spring strut on each side. It should handle rough landings without bending.

The tailwheel is also beefy, with the main support molded from carbon fiber and incorporating a heavy-duty axle. The tires are rubber, so they should withstand a lot of use without developing flat spots as foam tires would.

Other painted parts are the fiberglass wheel pants and the tail and wing struts. The wing struts come as a completed subassembly and are ready to bolt on. They are made from airfoil-shaped extruded aluminum.

Rounding out the kit is an assortment of hardware bags, a carbon wing tube, an aluminum spinner, a propeller, and even a pilot figure!

Construction

I'm not going to go through all of the construction steps. If you'd like to see each of the steps, you can download the Taylorcraft's manual. The link is listed in the "Sources" section.

In the front of most manuals is a list of tools and adhesives that you need to complete the kit. I make a point to gather those first, but usually end up using several other tools during a build. This was not so in the case of the Taylorcraft. I cleared my bench of all tools and only used the tools the manual listed. I never needed anything else.

Because the radio comes preinstalled, I took the time to charge the flight pack battery and bind the system to my DX18. One thing that is *not* included in the kit was a binding plug. This is a BNF model, yet no binding plug was included. Hopefully you'll have one of these somewhere.

There's only one step where an item is "glued" to another item. This was in the first step where the main gear was attached to the fuselage. The molded fairings are held in place with silicone adhesive. All other steps require only a few drops of threadlocker to hold screws

in place. Because of this, assembly is quick for a model of this size.

A case in point is the tail surface assembly. Only four bolts hold both halves of the stabilizer and the vertical fin to the fuselage. After bolting on the tail wheel assembly and struts, the entire tail assembly is together in a few minutes.

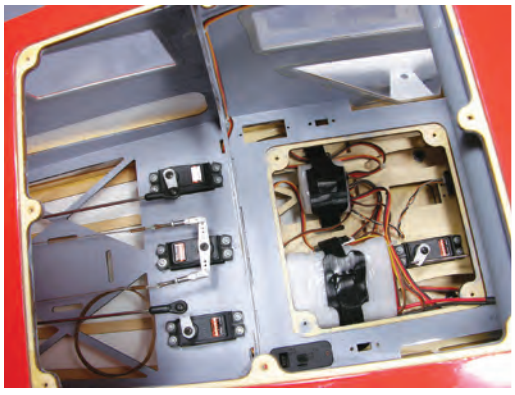
The only other step is mounting the G26 engine. It mounts inverted and bolts in quickly. Attach the muffler, the preplaced fuel tubing, the ignition wires, and the throttle pushrods, and that's it. This took only a few minutes as well.

I took my time sorting out proper throw for the throttle servo. The throttle arm on the carburetor only moves roughly 1/4 inch from open to close. I choose to use the throttle curve on the DX18 to solve the throw, but also make the throw more linear for a smooth throttle transition throughout the entire stick travel.

One note I'd like to throw in is about the ignition cutoff switch. It is a toggle switch, mounted on the port side of the fuselage. If I had the choice, I'd mount this in a different spot for two reasons.

First is safety. The G26 uses a capacitive discharge system, which means it produces its own spark. If there's any fuel in the cylinder, and the switch is on or accidentally bumped on, a simple turn of the crankshaft could cause the engine to fire.

Below: There is plenty of room inside the cabin. Everything you see here comes preinstalled, including the control hardware. A floor, where the seat and pilot are mounted, is included to cover the radio area.



Above: A nice design touch is this functional cabin door on the starboard side. It provides easy access to the radio, as well as the hidden, internal wing bolts.

The other reason is cosmetic. It's easy to get to, but I would have taken the time to make it less obvious from a Scale point of view.

I should note that although adhesive isn't used anywhere, you should use threadlock compound on the bolts during assembly. Gas engines vibrate more and spending a little time adding the threadlocker could save your model later!

After the engine is mounted, the cowl is fitted. It takes some wiggling to get it into position, but it fits snugly around the fuselage and the engine. All of the precut holes are in the right space for engine and muffler clearance. Also, there are two holes cut to adjust the carburetor needles with the cowl on. That's a nice touch!

Rounding out the kit is a little work on the interior and the wing struts. The interior work is cosmetic. I added a floor to the cockpit area, installed the seat which is held on with magnets, and fitted the pilot.

The pilot figure is well made, lightweight, and nicely detailed; however, it's too big for this model.

When in position, its head pushes on the top window and the "view" would be obstructed by the wing tube. Keep it around and use it in another project.

The wing struts are made from airfoil-shaped aluminum tubing. Each strut is preassembled, and requires slight adjustment by turning the threaded attachment point at the bottom of each strut. They lock into position with a jam nut.

At this point, the Taylorcraft is ready to go. The weight was right on track and the CG was accurate as well. Assembly time was approximately two hours, but one hour of that was setting up for the review photos between steps.

Flying

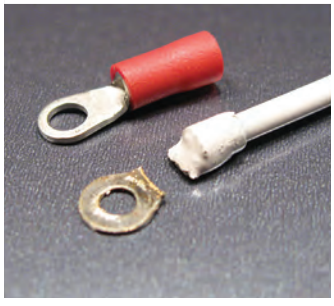
Before I went to the field for the maiden flight, I took some time to start the engine for the initial run. Because the engine was new, it took quite a few flips before it popped. After the choke was opened, a few more flips had the G-26 springing to life.

During this first run, I took the time to work over the throttle curve slightly more to get an even power distribution throughout the entire range of the throttle stick.

A few days later, it was time for its maiden flight. The Taylorcraft assembles in just a few minutes, and requires no tools. The wing bolts can be tightened by hand, and the wing struts are held in place by small clips.

It took a bit of flipping before the new engine came to life. After allowing the engine to warm up, I taxied around. I wish it could turn tighter than it does. The runway at my field is narrow, and

The entire tail assembly bolts to the fuselage, and then is held in place with few support struts. Note the great checkerboard covering on the underside of the stabilizer and also on the wing.



The only problem I encountered was the failure of the vertical fin struts. Both broke in the same spot because the thin metal could not handle the engine vibration. I ground off the stock connector and replaced it with a crimp-on-style electrical connector. The piece is virtually identical and is made from much thicker stock. They were soldered in place, and then painted.

the Taylorcraft took the entire width of the runway to turn around. It is no problem, but something to note.

Throttling up, the Taylorcraft was easy to steer during the takeoff run and had no tendency to pop up into the air, which was nice. After getting up to speed, I gradually pulled up and the Taylorcraft gently lifted off and climbed out with authority. A few trim passes later, I felt at home with it, effortlessly buzzing the field for the photo passes.

Feeling comfortable, it was time to carve up the sky with some aerobatics, and the Taylorcraft did not disappoint. If you've ever had the chance to see a full-scale, clipped-wing Taylorcraft at an air show, you'll find that the Hangar 9 model has matching capabilities.

It can easily perform loops, Split-S maneuvers, stall turns, and more. They're simple to do because of the combination of the Taylorcraft's stability and the G-26's power. When it comes to rolls, you'll really look like you know what you're doing. This is a great model with which to learn point rolls and slow rolls that take the length of the field.

Looking down at the timer on the transmitter, I had flown a good 15 minutes on this first tank, so I brought it in for its first landing. There were no surprises.

It has a respectable glide slope and it slows nicely for two- or three-point landings. The controls are effective all the way down to the runway, so there are no excuses for sloppy landings!

After taxiing back, I looked through the cockpit to see the fuel level and found that there was almost half a tank of fuel left, so it was time for more flying.

This time I focused on some low-level, inverted passes and had a ball. It takes a slight amount of down stick to hold level and roughly half throttle for a nice, smooth pass. After a bit more flying, I decided to come in and complete the first flights. After taxiing back, I glanced at the transmitter timer, which showed 21:31, and I still had slightly less than a third of a tank of fuel left!

When completed, the Hangar 9 Taylorcraft BNF came in at 14.25 pounds ready to fly. You can go from opening the box to a completed model in approximately 2 hours. Photo by Jay Smith.

The stabilizer halves slip into place using a system similar to removable stabilizers on larger aerobatic models. Two rods pass through the vertical fin to align the halves. Everything is held in place with four bolts.

Conclusion

What a lot of fun this Taylorcraft BNF is to fly! Some might be put off by its $1,275-plus sticker price, but you have to think of what you're getting. When you open the box, you have a complete airplane that you won't need to spend another dime on for accessories. Most of the work is done and what isn't finished goes together in a few hours. It's almost as though you're purchasing a mint-condition model from a friend who only flew it a few times.

Having flown the model quite a bit now, I've found that it is great at many things. If you've never owned a gas-powered or Giant Scale airplane, it makes a great trainer; just fly it on low rates. If you're looking for a unique, eye-catching Scale aircraft, it certainly has this covered.

Even if you're interested in a great-flying aerobat, the Taylorcraft does that too. It's even International Miniature Aircraft Association (IMAA) legal! It's truly a great design and a ball to fly. I can't wait to finish writing the review so I can get back to the field!

For anyone needing a picture for Fun Scale documentation, do a quick Google image search of "N6115 Taylorcraft" and you'll have several pictures from which to choose.

—Tom Sullivan
tmsullivan@roadrunner.com

MANUFACTURER/DISTRIBUTOR:

Horizon Hobby
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SOURCES:

Taylorcraft manual
www.horizonhobby.com/pdf/HAN4920-Manual.pdf

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An iconic Giant Scale trainer for electric or glow power

The Sig Kadet is one of those iconic models that has gracefully withstood the test of time. Like most successful designs, the Kadet became popular because of its great flying qualities. It has remained popular, because it has continued to adapt to the demands of our ever-evolving hobby. Look at the lineage of Kadet variations during the past four decades and you'll see what I mean.

Like much of the current Sig lineup, the latest iteration of the Kadet Senior ARF incorporates several features that allow it to accommodate electric or glow power systems. That explains the "EG" tag added to the name.

People have been flying electric-powered Kadet Seniors for years. Now, it's no longer a do-it-yourself conversion. You only have to decide which type of power system you want and bolt it on.

I've owned several other Kadets throughout the years, but this is my first Senior model. I wasn't quite prepared for how big this airplane is. Its 80.5-inch wingspan makes it an International Miniature Aircraft Association-legal model, and aptly so. The two-piece wing helps with storage and transport. The fuselage, however, does not break down and demands a considerable space commitment.

Assembly

If you've built a Sig kit or ARF before, you are familiar with the company's excellent assembly manuals. The Kadet Senior EG is no exception. It walks you through every step to result in an airworthy model.

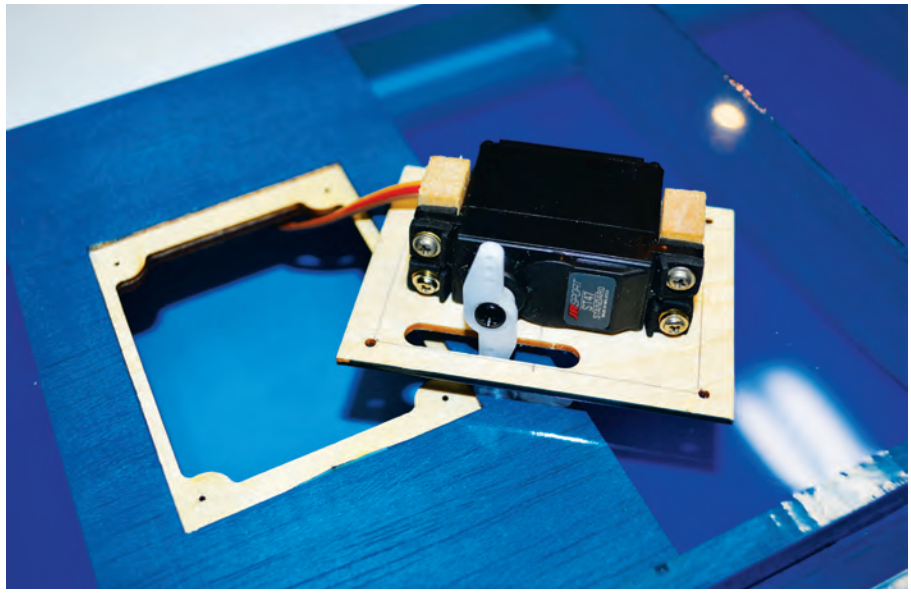
Experienced builders may find the level of detail to be excessive in some areas. Keep in mind that the Kadet's target market includes beginning modelers, who can only benefit from precise directions. No matter your skill level, I suggest that you thoroughly read each step. You may pick up a few pointers.

The first order of business is to tighten the Oracover covering. Although this certainly has a cosmetic benefit, the main goal is to secure any loose edges

in the covering to keep the model fuelproof and windproof. Given the size of the aircraft, plan to spend an hour or two with your covering iron.

Transparent covering tends to highlight sloppy workmanship in the covering and the balsa beneath. As I tightened the Senior's covering, I was hard-pressed to find errors in either area. All of the visible stick-built structure was clean, with no gaps in the joints. Likewise, every overlapping seam in the covering was straight and well adhered. Only a white-gloved stickler could find fault with the craftsmanship of my model.

Sig includes a full set of metric hardware. Although the overall quality is good, I *did* run into a few issues. One of my main wheel collars had to be drilled out to fit on the landing gear wire.



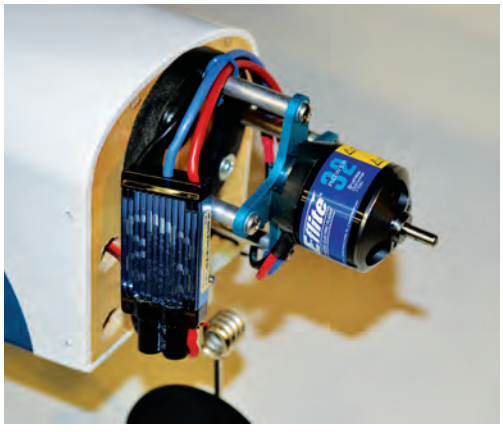
JR Sport ST47 standard servos were used for the control surfaces and they fit perfectly. The aileron servos are mounted to blocks on the back side of the wing cover that can be spaced to accept varying sizes of servos.

I also found that the aileron pushrods were slightly too short. I was able to overcome this by swapping them with the 4-inch pushrods intended for the tail feathers. I had a devil of a time inserting the threaded studs into the inner nylon pushrods used for nose wheel steering and throttle control. Threading the pushrod with a 2mm tap helped tremendously.

It is worth noting that all of the control surfaces use 2mm diameter pushrods. These are scantly larger than common 2-56 hardware. If built and flown in a traditional Kadet-like manner, I'm sure this hardware will hold up fine. However, if you have the need to get crazy with an obscenely oversized motor and/or fly it like a high-G acrobat, I suggest you also upgrade to 4-40-size pushrods.

Lithium or Nitro?

A model's weight, not physical size, determines the power needed to fly it in a given manner. The Kadet Senior is a bantam-weight aircraft and requires surprisingly little power. A .40 to .46 two-stroke (or .50 to .61 four-stroke) glow engine, or 500-watt electric motor will haul this behemoth around fine. I don't have anything against glow engines, but there was never any question that my Kadet Senior EG would have an electric power system.



The Kadet Senior EG readily accepts electric or glow power plants. I used an E-flite Power 32 brushless motor with a mount from Maxx Products. I attached my E-flite 60-Amp Pro ESC to the side of the mount for good cooling.

AT A GLANCE ...

SPECIFICATIONS

Model type:	Electric/glow ARF trainer
Skill level:	Intermediate builder/beginner pilot
Wingspan:	80.5 inches
Wing area:	1,180 square inches
Length:	64.75 inches
Weight:	6 to 6.5 pounds
Power system:	500-watt (3528-1000 Kv) electric motor/.40 to .46 two-stroke; .50 to .61 four-stroke glow
Radio:	Four-channel with four standard servos (electric); five servos for glow
Construction:	Balsa and plywood
Covering/finish:	Iron-on covering
Street price:	$300

TEST-MODEL DETAILS

Power system:	E-flite Power 32 outrunner brushless motor; E-flite 60-amp Pro ESC
Battery:	Thunder Power G6 Pro Lite 4S 5000 mAh LiPo
Propeller:	APC 12 x 8E
Radio system:	Spektrum DX8 transmitter; Spektrum AR7000 receiver; four JR Sport ST47 standard servos
Ready-to-fly weight:	7.07 pounds
Flight duration:	10-plus minutes
Wing loading:	13.8 ounces per square foot
Full-throttle power:	62.8 amps, 968 watts, 9570 rpm

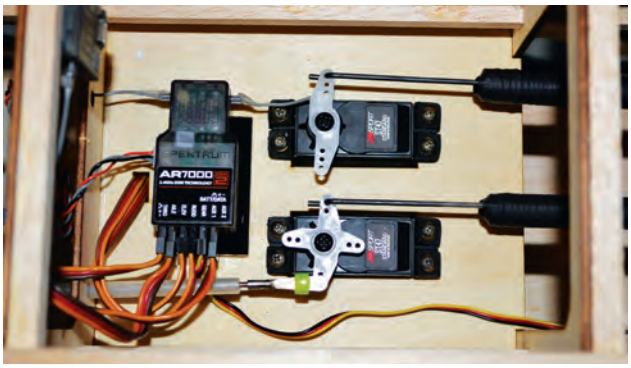
PLUSES

- Lightweight for its size.
- Well built.
- Broad flight performance.

MINUSES

- Minor hardware issues.

Sig recommends a Himax HC3528-1000 outrunner motor with a Maxx Products mount, and the instructions reflect the installation of this pair. Using a different power setup may require slight improvisation to get it mounted.



Standard-size servos fit the radio bay with room to spare. I used JR Sport ST47 servos and a Spektrum AR7000 receiver. The ailerons also utilize ST47 servos.

I agree with Sig that the Himax—or nearly any electric motor producing at least 500 watts—will be adequate for the Kadet. Because I planned to haul gliders and cameras (see sidebar), I selected a slightly larger E-flite Power 32 motor. It outweighs the Himax motor by a few grams, but it provides more power and turns a larger propeller to better pull my high-drag loads.

Of the countless motor mount options from which to choose, I settled on a beefy unit from Maxx Products (part number ACC3650) and shortened the standoffs to achieve the correct spacing to fit the cowl (which comes painted, trimmed, and drilled!). A nylon engine mount and fuel tank are included for glow motors.

Electric fliers will definitely appreciate the Kadet Senior EG's factory-installed battery mount and access hatch. The cavernous battery bay fits my Thunder Power 4S-5000 mAh G6 Pro Lite LiPo with room to spare. The quarter-turn fasteners on the hatch hold well, yet are easy to actuate. My only complaint is that Sig doesn't include Velcro tape or straps to secure the battery.

Sig provides a large battery bay with an equally large access hatch. The Thunder Power Pro Lite G6 4S-5000 mAh battery easily fits. This battery provides power for flights lasting 10 minutes or longer.

I used four JR Sport ST47 standard servos for the control surfaces and they fit perfectly. The speed control is an E-flite 60-Amp Pro ESC, which also siphons voltage from the flight battery to power the radio gear. I attached all of these components to a Spektrum AR7000 receiver, which talks to my Spektrum DX8 transmitter. The fuselage swallows all of the onboard equipment and provides plenty of room to work.

After three evenings, my Kadet Senior EG was ready to fly. No ballast weight was required to achieve the correct CG. At slightly more than 7 pounds, it's heavier than advertised, yet still well below most other models this size.

A smaller motor and battery may get it within Sig's specifications. Despite the extra ounces, the Kadet's paltry wing loading and glider-like cube loading would make many park fliers jealous.

Flying

As I write this, I've logged roughly two dozen flights on the Kadet in conditions ranging from calm to blustery. As you would expect from a trainer, the airplane was easy to fly in all of these environments. It's hard to imagine a

RenaissanceBird

The Kadet's legacy is that of a basic trainer, but it would be nearsighted to pigeonhole it in that role. Some of the same traits that make the Senior a docile trainer also make it a utilitarian beast of burden.

After my first few shakedown flights with the Kadet, I mounted a simple tow release behind the wing saddle. There is plenty of wood structure there to support the mechanism, and the added weight is trivial.

This tow release permits me to haul gliders up to altitude. When pulling my Multiplex Easy Glider, I can get to release height in two circuits using only half throttle. Of course, I could rocket both airplanes upward at full throttle, but I prefer the former method.

I also added two self-adhesive camera mounts for my GoPro Hero2 video camera. One mount simply sticks to the wing covering. The other mount within the fuselage required the addition of a few hardwood braces under the side windows.

These mounts let me position the 7-ounce GoPro to look forward, rearward, or to either side and capture high-definition-quality footage of my flights. The weight is not an issue, but I *do* have to change my pitch trim when the camera is on the wing.

I think that the Kadet's versatility is limited only by your imagination. It has ample internal volume and load-carrying capacity to serve multiple roles and can grow with your needs.

This simple glider tow release was made with a 5/16-inch square hardwood stick, a 2-56 pushrod, and a Hitec HS-55 servo.

The area behind the wing saddle provides a strong, yet discreet, mounting location for the tow release.

With toned-down control throws, the slow-flying Kadet should put rookie pilots and their instructors at ease by allowing adequate reaction time. With more control throw, the Kadet has surprising aerobatic chops.

scenario where the Senior would *not* be easy to fly!

I think that the recommended control throws are good for an experienced pilot flying the Kadet as a sport model. They provide enough authority for basic aerobatics such as rolls, loops, and inverted flight. If you plan to put a beginner on the sticks, I'd suggest setting low rates to about half of what's suggested in the manual.

Coupled with an APC 12 x 8E propeller, the Power 32 has plenty of pull for this airplane. In fact, unless I'm hauling a glider, I rarely use full throttle because it is unnecessary. When I *do* get the urge for maximum power, the Kadet displays an impressive vertical climb and a surprising burst of speed. The typical mix of flying I do with occasional aerobatics and numerous touch-and-gos gives me 10-minute flights with reserve capacity.

Thanks to its low wing loading, the Senior is capable of casual, slow flight. With a moderate headwind, you can practically park it in the sky. Combine slow speed with sedate controls, and a student pilot has time to think before reacting. Isn't that the Holy Grail of desired traits for a trainer aircraft?

What is it about some airplanes that makes them easy to land? Whatever it is, the Kadet had a double dose. All you have to do is point it at the runway, reduce power, and flare at some reasonable time before the wheels touch. That must be why I do so many touch-and-gos with this model. One of my favorite variations involves touchdown, and a long slow rollout and takeoff, all while keeping the nose wheel pried off the ground.

Conclusion

Although much has changed about Sig's Kadets throughout the years, much has stayed the same. The lightweight, stable platform flies as well as it ever has. The Senior EG version provides the timesaving features of a complete ARF, while also making it a snap to use electric or glow power. If this trend of selective modernization continues, I think Kadets will be around for a long time to come.

—Terry Dunn
boaw@comcast.net

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HANSA-BRANDENBURG W.29 ARF

FLY A UNIQUE WORLD WAR I FLOATPLANE

by Greg Gimlick

Wow! That was my first impression when I opened the box and worked my way through all of the protective wrap and tape. The model arrived double boxed and well prepared for its trek across the country.

The covering was well done with no wrinkles and the airplane's design was enough to get me excited about starting the build. I'll confess to temporarily slapping the wings and tail on so I could admire it and make airplane noises. My wife is used to this by now.

This is a semiscale model of a World War I German warbird. I've had trouble convincing a couple of people of this, but it's true. The airplane was innovative for its time. The vertical fin/rudder was designed to give the gunner great visibility and field of fire to the rear without having to worry about shooting his airplane's tail off.

With a top speed of 110 mph, excellent power, and maneuverability, the W.29 likely proved to be the best seaplane of the war. A W.29 actually attacked and disabled a submarine encountered running on the surface in the North Sea.

Both the full-scale airplane and the model can be outfitted with skis for year-round operations.

Construction

The kit is an exceptional ARF and continues the reputation of Maxford USA's quality offerings. It's all built-up balsa and plywood construction and beautifully covered. It didn't even have any wrinkles to work out.

There is a complete decal set to dress it up and I had the optional detail set which included two pilots, the synchronized Spandau guns for the nose, and a ring-mount parabellum gun for the rear. The inclusion of a prefinished engine was a nice surprise and really dresses it up.

This is a semiscale model of a World War I German warbird. The vertical fin/rudder was designed to give the gunner great visibility and field of fire to the rear without shooting the tail off.

Begin by thoroughly reading the instruction manual and studying each photograph. Before starting actual construction, be sure to go online to Maxford's website and download the latest update and addendum. You will also find full-color photos, which better show the details than the black-and-white ones in the printed manual.

The addendum addresses some points that needed clarification, but mostly it refers to the updated hardware, which is an improvement over the initial release.

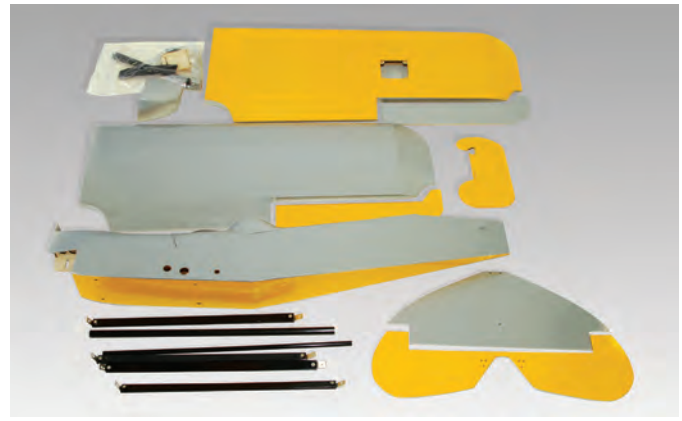
Although this is not a beginner's model, anyone who has completed construction of a kit should be able to successfully assemble this one. Experienced modelers will be tempted to do it without following the instructions, because the sequence is standard and the parts are self-explanatory, but resist the urge to do so.

The accessories are glued into place and add much to the looks of the finished product.

Assembling the ailerons and main wing begins the process and there is nothing new here. Snake the servo wires and 12-inch extensions through the wing using whatever method you like, but I used the tried-and-true method of dropping a piece of ceiling fan pull-cord chain through the wing tied to the servo plug. These chains will find their way through even the most difficult passages, but this one is wide open and easy.

Servos are attached to the wing panel cover with mounting blocks and screws. Quick links are provided, along with horns and prebent control rods with Z bends on one end. The ailerons are attached using the provided CA hinges, and the slots are precut.

The tail surfaces are next and they also employ CA hinges in precut slots. The horizontal stabilizer is glued to the top of the fuselage and has predrilled holes for wood screws to install in the decking. This ensures perfect alignment and provides a great way to keep it all in place while the epoxy dries.



This shows the kit's contents as they are shaken out of the box.

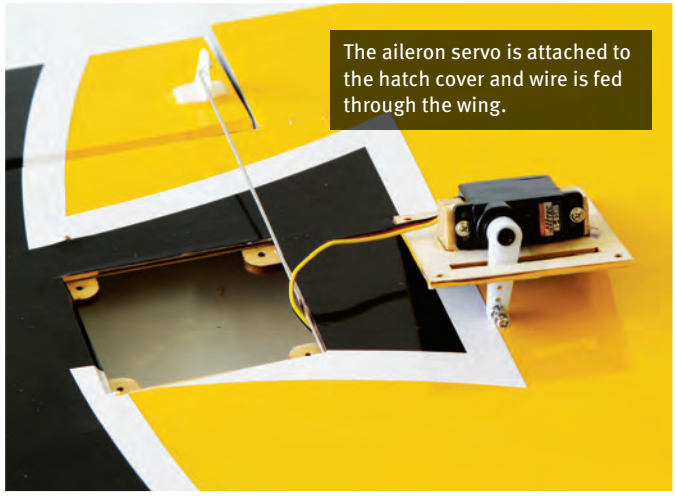
My only complaint about the tail assembly was that the elevator halves were predrilled for the bolt through the horns. The holes were perfectly placed, but only one side needed to be drilled. I filled the extra holes and touched it with some silver paint to hide them.

Fuselage construction consists of attaching whatever motor you're going to use and adjusting it so it extends the required distance ahead of the cowling. I used an E-flite Power 15 and $^1/_2$-inch nylon spacers for perfect alignment. Control rods and carriers for the tail surfaces are preinstalled and align nicely with the precut servo holes in the equipment deck.

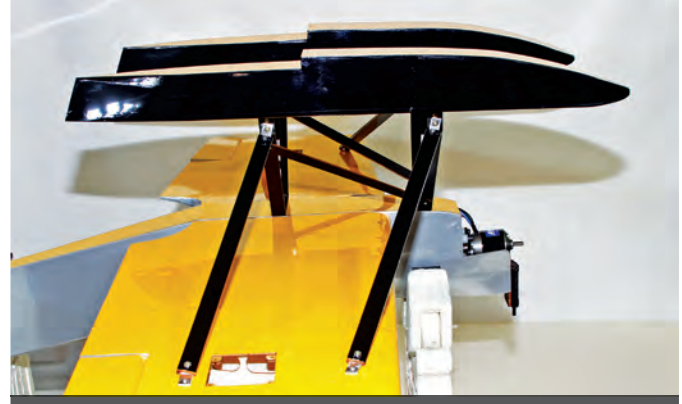
A word of caution here: before you glue the scale engine into the front of the fuselage, be sure to have all equipment placement complete because it will block what little access there is to the forward battery compartment. I secured my speed control and used Velcro to affix my battery to the inner deck and floor, working through the holes in the engine platform before I glued the engine in place.

You have two choices for placing your 3S battery pack: either ahead of the forward bulkhead or behind the rear bulkhead. I don't think it would balance if you chose the aft location. I added a couple of ounces of weight to the nose for proper balance and my battery was as far forward as I could place it.

Getting the pack in and out of that compartment is



The aileron servo is attached to the hatch cover and wire is fed through the wing.



Careful tweaking of the metal strut ends will result in a nicely aligned assembly. The floats are wood and covered with film covering so you'll need to go over each seam and completely seal them.

challenging and I have to trust the Velcro, because there is no way to reach in and secure it with a wraparound strap. So far, that has not been an issue.

I have skis and floats for my W.29, but chose to use floats as the primary gear. This step is tedious, but not difficult. The parts align beautifully and all of the holes are drilled with the appropriate nuts and bolts provided. Be sure to use threadlocker on each one after you get it assembled and aligned.

I assembled it loosely, measured, and then tightened each bolt, being sure to keep it straight and true. The wood floats are covered with film, so you'll need to go over each seam and completely seal them.

Maxford USA suggests using diluted epoxy. I chose to use Bob Smith Finishing Epoxy, which is excellent for such applications. It allows for plenty of time to paint it on the seams and it dries clear. If done carefully, it is unnoticeable, yet seals perfectly. Be sure to clean the covering with alcohol to remove all residue and oils from your hands before sealing the seams.

I also sealed the places where the wooden braces were glued to the floats. As an extra precaution, I sealed all of the seams on the bottom of the airframe and tail surfaces, too. Extra caution in this regard will pay benefits in the long run. (Don't ask me how I learned that many years ago.)

Ski assembly takes roughly five minutes and they are ready to be bolted on in place of the floats. Some bending of the brackets is necessary to get everything aligned and angled correctly. The bottoms of my skis were slightly rough, but a light sanding and a coat of wood sealer made them smooth as glass.

Special Note

I found the fiberglass wing tubes that act as the receptacle for the wing joining rods were loose inside the wings. I was test-fitting the assembly and they pulled out of the wing when I removed the wing from the fuselage. It fit tightly, but I didn't think it was that tight.

I was able to put each of the large tubes back into place and work epoxy in to hold them. If this happens to you, be sure to clean each tube carefully with alcohol to provide a good gluing surface. I suspect this was the problem when assembled at the plant.

I also sanded each joining rod slightly to ensure a more comfortable fit to the wing tubes. This is not a big deal, but an important thing to check on any airplane that comes with preinstalled tubes.

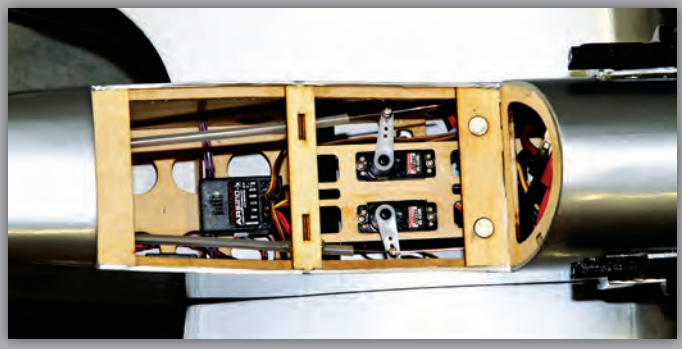
The addendum addresses bending the strut ends to align properly with the wings and float brackets. Don't try to twist the bracket without removing it from the strut or you will damage the wooden strut end. This is somewhat time-consuming, but going slowly and carefully will ensure proper alignment and retention of the wing.

I replaced the tiny screws that attach the ends of the struts to the wing hard points because the heads were so small they nearly pass through the holes in the strut brackets. A slightly larger Phillips screw made the job easier and more secure.

Be sure to harden all holes where screws are threaded into hard points with a small amount of CA, including the servo mounts.

This airplane should be viewed as a one-piece airframe. Although the wings can be disassembled for travel, it is difficult and will eventually wear out the hard points in the wing if done repeatedly. Maxford USA recommends keeping assembly and disassembly to a minimum.

The before and after shots of the forward bulkhead. Maxford recommends cutting the crossmembers to allow access to the forward battery position.



The receiver and tail servo installation is complete. The ESC is mounted below the battery in the forward compartment out of view.

The skis are complete and simply bolt on in place on the bottom of the float assembly.

Control Throws and CG

The instructions describe two ways to set the appropriate control throws. Although either method will work, I dislike one of them.

Maxford recommends (if using a computer radio) setting the controls for maximum control throw and then dialing in 60% exponential for aileron and elevator, plus 20% for rudder to reduce them to the required amount. I do not like this method because it gives a spongy, unresponsive feel to the controls.

Most experienced pilots will use a small amount of exponential, but too much feels bad and all the deflection is at the extreme ends of the sticks. This can promote excessive stick movement, which can translate to overcontrolling when flying a model that lacks this much exponential.

Although not built for aerobatics, you'll find rolls and loops are easily within the W.29's capabilities, depending on your chosen power setup.

I prefer the second method recommended (for non-computer radios). This uses mechanical adjustments with the servo wheels and control horns to achieve the proper throws. This method has been taught for years. It gives the perfect throws without resorting to electronic means. When things are set up in this manner, you can trim as necessary with your preferred exponential amounts. The suggested control throws and CG location worked nicely.

The CG, as it sets in the water, is nearly perfect, although the airplane sets slightly tail low. It levels out as soon as you apply some throttle. Because there is no water rudder, you will find yourself using a lot of rudder to keep it taxiing straight on the water if you're too aggressive on the throttle.

Flying

This is why I bought it in the first place, isn't it? Doing a test flight off of water is always a nervous moment for me, but this one didn't show me any new tricks to scare me. The takeoff run was almost nonexistent on the first flight.

The motor has a lot of torque and I powered it up faster than I should have, so it needed some immediate rudder input to counteract the torque. As it broke the surface I was afraid that it would veer off because of the amount of rudder I had in, but it was easily controllable and the airplane climbed gracefully.

After a couple of circuits and the addition of a click or two of trim, the airplane felt like a big trainer. Controls were adequate on low rates and comfortable on high. I used my standard 20% exponential and that worked for me. Stalls were uneventful and the nose dropped off gently, but it tends to drop a wing.

This isn't built for aerobatics, but you'll find rolls and loops are easily within its capabilities depending on your chosen power setup. The E-flite Power 15 with the 12 x 10 propeller drew a comfortable 45 amps at full throttle and provided a nice 85 watts per pound. Inverted flight wasn't a problem and there was enough power to pull it up through the outside of a loop to return to level flight. Impressive!

Setting up for the approach is no different from any other airplane, except if you crash, you'll be dropping it into water—no pressure! I set up for a long final, allowing myself time to get it perfectly aligned and establish a constant, shallow glide path. Land with power and continue to taxi upon arrival to keep the airplane level on the skids.

Touch-and-gos are easy and fun to do once you are comfortable with the soft feel of touching down. It will handle some small waves, but be careful not to get too complacent or it will get exciting.

Conclusion

This is a fun airplane to take anywhere. Whether I'm flying it from my field or a lake, it draws attention. In the air, I hear comments from people behind me saying, "It just looks wrong," but I know everyone is watching and admiring it too.

It's an airplane you can take somewhere and you'll probably be the only one there with anything that looks like it. I spend a lot of time explaining that it really *is* a model of a full-scale airplane.

Maxford USA did well with this one and continued its trend of bringing quality models of uncommon subjects to the everyday modeler. I review a lot of airplanes and products, and this is one that will remain in my stable rather than finding a new home elsewhere, but if you want one, they're available!

I want to thank the town of Holly Springs, North Carolina, for its assistance during the test flight and photo shoot.

—*Greg Gimlick*
maelectrics@gimlick.com

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AT A GLANCE ...

SPECIFICATIONS

Model type:	Semiscale ARF
Skill level:	Intermediate builder; intermediate pilot
Wingspan:	53 inches
Wing area:	530 square inches
Airfoil:	Semisymmetrical
Length:	43 inches
Weight:	3 pounds, 14 ounces (actual)
Power system:	Any 600-size electric motor, 3S LiPo, 45-amp ESC
Radio:	Four-channel and four microservos
Construction:	Built-up wood
Covering:	Iron-on film
Street price:	$219

TEST-MODEL DETAILS

Motor used:	E-flite Power 15, Castle Creations ICE Lite 50 ESC
Battery:	Zeus 3S 11.1-volt, 2200 mAh LiPo
Propeller:	APC 12 x 10E
Radio system:	JR 9503 transmitter, Spektrum AR6210 DSMX receiver, four Hitec HS-65HB servos
Ready-to-fly weight:	3 pounds, 14 ounces
Flight duration:	8 minutes

PLUSES

- Unique design.
- Excellent covering and construction.
- Easily removable cockpit held by magnets and dowels.
- Scale accessory package.
- Predrilled control horn holes.
- Online updates for manual.
- Flight performance.

MINUSES

- Wing joiner tube was loose in the wing.
- Screws to attach the wing strut to the wing are small.
- Difficult to access motor battery.

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Astro-Hog

Joseph Chadwick (905 N. Amy Dr., Deer Park TX 77536) built his Astro-Hog from a Sig kit.

The model was finished in UltraCote and weighs 7 pounds, 5 ounces. Joseph uses an O.S. .61FX for power with guidance supplied by an Airtronics 2.4 GHz radio.

Senior Kadet

John O'Brien (92 Arch Rd., Harmon IL 61042; email: obrienj@thewisp.net) kitbashed this Senior Kadet he had stored in his attic.

Twenty years ago, John bought four Tower Hobby .40 motors. They were lying around new, but unused, so he decided to put them to use. He added 13 inches to the wing and sheeted the body.

John wrote: "I have about 25 flights on it now and it flies real nice as long as you don't lose an outboard engine! I just chop the throttle and glide it in."

1977 Magnum

Edward Pasick (7664 Brofield Ave., Windermere FL 34786; email: realtor7430@yahoo.com) constructed this 1977 Magnum .80 from a set of plans designed by Dick Sarpolus from New Jersey.

The construction is balsa, light plywood, and clear MonoKote. The original Magnum flew at 109 mph with twin K&B 7.5s and tuned pipes. This 2011 version is powered by two Super Tigre .40s, which is fast enough for Edward. The original plans were tweaked for today's modern radio equipment. Total construction time was roughly 80 hours. The original model was sheeted and painted.

Douglas Dauntless SBD 5

Matt Ventura (2612 E. Torrey Pine Ln., Chandler AZ 85249; mattventura@msn.com) built this 1/7-scale Dauntless from a 1978 Bob Holman kit given to him roughly three years ago by his former club president.

Matt wrote: "This older kit was very challenging as all I had to work with were the blueprints, no instructions, but some very precisely cut balsa. Fortunately the wood was still in good shape. The build took me almost six months, but the end product was worth the effort. The power plant is a Magnum XL 120 four-stroke engine. The cockpit is a modified Dynamic Balsa cockpit used in an ESM Dauntless."

Matt built and submitted this Dauntless to *MA* in memory of Frank Bigelow.

Interested in sharing your handiwork?
See page 153 for submission guidelines.

Desperado

William Hayes (5462 Constantine Rd., Cecilia KY 42724; email: hayesvgky@yahoo.com) built this Bill Evans Desperado from scratch.

The wings are hand-cut, foam-core sheeted 3/32-inch balsa. The fuselage and tail were built from Luan flooring plywood. The Desperado spans 62.5 inches and is powered by an O.S. Max .61FX.

This is William's fourth scratch-built Simitar. "It flies like an eagle and is a real head-turner at the fields," wrote William.

Chilton WD 1

Emerson Melton (180 Coffey St., Brooklyn NY 11231; email: mel52033@aol.com) spent four months building his model from a drawing. He wrote: "This airplane was designed by two student design engineers in England in early 1937. They only built four over two years. The intent was to build a lightweight racer that would operate cheaply, yet have exceptional performance on low power."

Emerson's model is 1/4 scale. Many of the wing ribs had to be designed because there were no templates to use. The Chilton spans 84.5 inches, weighs 11.5 pounds, and uses a Zenoah G-26 for power.

Byron F-16

Carl Malta (3 Valleyview Ave., Jamestown NY 14701; email: cmalta7@aol.com) wrote: "I've had this kit for 30 years and I finally decided to finish it. It's powered by a Rossi .81, and controlled by a Spektrum DX7 radio with eight Hitec servos.

"I did not use the wishbone system for the elevator. Instead, I installed two servos. I also installed an Iron Bay pressure valve with two fuel tanks and no header tank and this worked very well.

"The plane also has retracts installed. I had the first flight last week and it flew absolutely beautifully. All systems operated perfectly.

"I would also like to thank my pit crew of Tom Griehm and Bill Parenti for their great help (a pit crew is essential to fly the F-16). Due to my mistake of leaving the throttle trim set too low, my first landing was a dead-stick landing, but it was a great landing."

Kloud King

Jay Barkdull (4755 S. Xenon Way, Morrison CO 80465; email: jbarkdull@gmail.com) recently completed this 1938 DeAngelis design.

The original Kloud King has a 63-inch wingspan, but Jay enlarged his to 108 inches. Covering is many rolls of Oracover. It is powered by an O.S. Gemini Twin with an onboard RAM glow igniter and controlled by a Futaba T7CAP. The Kloud King was kitted by Bob Gray of B&M Models, Layton, Utah.

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Great Planes® Escapade GP/EP ARF

Wingspan: 68 in.

FREE! Great Planes Dead Center Hole Locator with purchase of Great Planes Escapade GP/EP ARF. $7.99 Value!

		use stock # below	3 PAY	
AA1007	Escapade Sport/Aero GP/EP ARF 68"	$63.33	$189.99	
AA1006	Escapade GP/EP ARF 52.5"	$43.33	129.99	

EASY PAY ON REQUEST

Great Planes Dirty Birdy .60 ARF

EASY PAY 3 PAY $99.99 ON REQUEST

Wingspan: 64.5 in.

$299.97 AA1002

AZ0105	ARF/O.S. 65AX Eng.	3 PAY $164.99	$494.97	

Top Flite® Mini Contender EP ARF

Wingspan 36 in.

EASY PAY 2 PAY $49.99 ON REQUEST

$99.98 AA1003

AZ0107	EP ARF/Mtr/ESC Combo	3 PAY $63.33	$189.99	

Great Planes Avistar Elite Planes

Wingspan: 62.5 in.

EASY PAY ON REQUEST

		3 PAY				3 PAY	
AZ0101	GP/EP ARF/O.S.46AX Engine	$94.33	$282.99	AA1004	GP/EP ARF	$46.66	$139.98
AZ0102	GP/EP ARF/Mtr/ESC Combo	$98.33	294.99	AA1005	.46 RTF	$113.33	339.99

Hitec® SkyScout™ EP Aircraft

NEW!

P2GO RR

Wingspan: 54.5 in

AA1181	SkyScout P2GO RR	NEW!	$164.99
AA1182	SkyScout Kit	NEW!	79.99

Heli-Max® Axe 100 Flybarless Helicopters

FP CP

Rotor diameter: 9.4 in.

EASY PAY ON REQUEST

AA1008	FP 2.4GHz RTF	3 PAY $46.66	$139.98	AA1010	CP 2.4GHz RTF	3 PAY $66.66	$199.98
AA1009	FP Tx-R	2 PAY $54.99	109.98	AA1011	CP Tx-R	3 PAY $53.33	159.99

Cox® EP 2.4GHz RTFs

Sky Ranger

FREE! Cox LiPo Battery with purchase of a Cox Airplane.

		use stock # below	2 PAY	
AA1012	Sky Ranger EP 2.4GHz RTF 20"	Free LiPo Battery $16.99 Value	$49.99	$99.98
AA1013	Extra 300 EP 2.4GHz RTF 20"	Free LiPo Battery $18.49 Value	$54.99	109.98
AA1014	Sky Cruiser EP RTF 27.6"	Free LiPo Battery $18.49 Value	$49.99	99.98

EASY PAY ON REQUEST

SAVE $5

Tower Hobbies TOWER™ Trainers

EASY PAY ON REQUEST

AZ0108	40 ARF/O.S. 46LA Engine	3 PAY $57.65	$172.95
AA1015	40 ARF MkII 62" SAVE $5	2 PAY $52.49	104.98
AA1179**	40 RTF MkII 62"	3 PAY $109.99	329.97

Top Flite® Giant Scale FW-190 ARF

$749.99 AA1017

Wingspan: 85 in.

AZ0106	Giant Scale ARF/ DLE-55cc Engine	SAVE $25	$1094.98

Tower Hobbies® Brushless Rx-R™ Warbirds

P-51D Mustang

$5 GIFT CERTIFICATE

FU4 Corsair

AA1018	P-51D Mustang Rx-R 40"			AA1019	F4U Corsair Brushless Rx-R 39"		
	$5 Gift Certificate	2 PAY $59.99	$119.98		$5 Gift Certificate	3 PAY $43.33	$129.99

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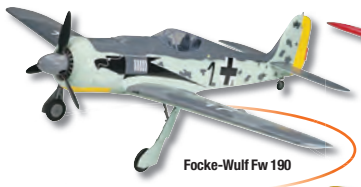
Focke-Wulf Fw 190


Gee Bee R-1 EP

NEW!


Micro SE5A WWI

NEW!


F4U-1A Select Scale Corsair


Sensei Trainer


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Switch


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AA1039


Millennium Master


Cessna 350 Corvalis®


Acro-Wot™ MkII


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F-86 Sabre Micro EDF

AA1025	Flyzone S.E.5a WWI Micro EP Tx-R	*NEW!* 2 PAY $39.99	$79.98
AA1034	Flyzone Corsair F4U-1A EP Tx-R	*NEW!* 3 PAY $76.66	229.98

AA1020	Flyzone Playmate Micro EP Tx-R Blue 18.5"	2 PAY $34.99	$69.98
AA1021	Flyzone Albatros D.V WWI Micro EP Tx-R 14.5"	2 PAY $34.99	69.98
AA1022	Flyzone Super Cub Micro EP Tx-R 17.7"	2 PAY $34.99	69.98
AA1023	Flyzone Fokker Dr.1 WWI Micro EP Tx-R 14.1"	2 PAY $39.99	79.98
AA1024	Flyzone Nieuport 17 WWI Micro EP Tx-R 15.3"	2 PAY $39.99	79.98
AA1037	Great Planes F-86 Sabre Micro EDF Tx-R 15"	3 PAY $46.66	139.98

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Super Cub Micro


Albatros D.V WWI Micro

AA1026	Flyzone Calypso Glider EP Tx-R 73"	3 PAY $66.66	$199.98
AA1029	Flyzone Acro-Wot MkII Tx-R 49"	3 PAY $66.66	199.98
AA1030	Flyzone Millennium Master EP Tx-R 41"	3 PAY $76.66	229.98
AA1031	Flyzone Cessna 182 Skylane EP Tx-R 47.5"	3 PAY $73.33	219.99
AA1032	Flyzone Piper Super Cub EP Tx-R 48"	3 PAY $59.99	179.97
AA1033	Flyzone DHC-2 Beaver Tx-R 59.5"	3 PAY $69.99	209.97
AA1038	Great Planes Gee Bee R-1 EP Tx-R 38.5"	3 PAY $59.99	179.97

$10 GIFT CERTIFICATE


Fokker Dr.1 Micro


Playmate™ Micro

AA1027	Flyzone Sensei Sport Trainer EP Tx-R 58"	3 PAY $73.33	$219.99
AA1028	Flyzone Switch 2-in-1 Sport Trainer EP Tx-R 45"	3 PAY $83.33	249.99
AA1035	Flyzone Cessna 350 Corvalis EP Tx-R 57"	3 PAY $73.33	219.99
AA1036	Flyzone Focke Wulf Fw 190 EP Tx-R 44.5"	3 PAY $76.66	229.98

$15 GIFT CERTIFICATE

Flyzone Sensei EP Trainers

EASY PAY ON REQUEST


Wingspan: 58 in.

AA1040	EP RTF 58"	3 PAY $93.33	$279.99
AA1041	EP Rx-R 58"	3 PAY $59.99	179.97

Great Planes Giant Revolver™ 50cc Gas ARF

EASY PAY ON REQUEST 3 PAY $143.33

$429.99
AA1042

Wingspan: 90 in


NEW!

AZ0109 ARF/DLE-55cc Eng Combo *SAVE $20* $779.98

Heli-Max® MD-530 EP Helicopters

EASY PAY ON REQUEST

Rotor Diameter: 9.4 in.

AA1043	Flybarless 2.4GHz RTF	3 PAY $46.66	$139.98
AA1044	Flybarless Tx-R	2 PAY $59.99	119.98

Hobbico® NexSTAR™ Trainers

EASY PAY ON REQUEST

Wingspan (both): 68.8 in.

AA1045**	.46 Select RTF 68.75"	3 PAY $146.66	$439.98
AZ0110	ARF/O.S. 46LA Engine	3 PAY $73.33	219.99
AA1046	.46 ARF .46,68.75"	3 PAY $48.33	144.99

Flyzone™ Corsair F4U-1A Brushless 2.4GHz RTF

Wingspan: 48.5 in.

EASY PAY 3 PAY $99.99 ON REQUEST

$299.97 AA1047

Great Planes® Waco Classic YMF-5D Glow/Gas ARF

EASY PAY 3 PAY $166.66 ON REQUEST

$499.98 AA1048

Wingspan: 72 in.

AZ0117 ARF/O.S. 95AX Eng Combo *SAVE $20* $759.97

Heli-Max® Axe™ CP EP RTF

Rotor Diameter: 21.5 in.

EASY PAY 3 PAY $66.66 ON REQUEST

$199.98 AA1049

Great Planes Revolver™ GP/EP ARF

EASY PAY 3 PAY $79.99 ON REQUEST

$239.97 AA1050

AZ0112 ARF/BL Motor/ESC Combo..... 3 PAY $144.99 $434.97
AZ0113 ARF/O.S. 65AX Engine Combo.. 3 PAY $144.99 434.97

Wingspan: 70 in.

Flyzone Micro S.E. 5a 2.4GHz RTF

Wingspan: 14.3 in

EASY PAY 2 PAY $49.99 ON REQUEST

$99.98 AA1051

Heli-Max® 1SQ Quadcopter EPs

NEW!

AA1052 1SQ Quadcopter 2.4GHz RTF.... *NEW!* 2 PAY $49.99 $99.98
AA1053 1SQ Quadcopter Tx-R ..... *NEW!* 2 PAY $39.99 79.98

Thunder Tiger® Mini Titan E325S Flybarless ARF

EASY PAY ON REQUEST

NEW!

AA1054 ARF... *NEW!* 3 PAY $143.33 $429.99
AA1055 ARF Combo.. 3 PAY $149.99 449.97

Flyzone DHC-2 Beaver Select Scale RTF

Wingspan: 59.5 in.

EASY PAY 3 PAY $99.99 ON REQUEST

$299.97 AA1056

Great Planes Christen Eagle GP/EP ARF

EASY PAY 3 PAY $84.99 ON REQUEST

$254.97 AA1057

Wingspan: 42.5/40 in.

AZ0118 ARF/O.S.55AX Engine.. 3 PAY $136.66 $409.98
AZ0119 ARF/BL Mtr/ESC Combo. $146.66 439.98

FREE! Great Planes Dead Center Hole Locator with purchase. $7.99 Value! use stock # at left

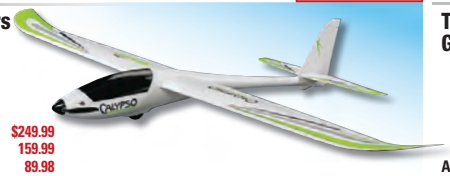
F4U Corsair 61

Top Flite Corsair ARFs

AZ0121 Giant Scale Corsair ARF/ DLE-55cc Gas..... *SAVE $20* $1079.98
AA1059 Giant Scale Corsair ARF 86.5" 729.99
AZ0111 F4U Corsair 61 ARF/ O.S.65AX ..... 3 PAY $186.66 559.98
AA1058 F4U Corsair 61 ARF .61-.65, 62.5" *SAVE $35* 3 PAY $121.66 364.98

Flyzone Calypso EP Gliders

EASY PAY ON REQUEST



AA1060 RTF 73" ..... 3 PAY $83.33 $249.99
AA1061 Rx-R 73" ..... 3 PAY $53.33 159.99
AA1062 ARF 73" ..... 2 PAY $44.99 89.98

Top Flite Cessna® 182 Skylane GP/EP Gold Edition ARF

EASY PAY 3 PAY $146.66 ON REQUEST

$439.98 AA1063

Wingspan: 81 in.

AZ0122 ARF/O.S. 65AX Engine Combo.. 3 PAY $211.33 $633.99

Thunder Tiger® Titan X50 Helis

EASY PAY ON REQUEST

X50B

AZ0124 X50B Kit/O.S. 55HZ-R DRS Combo ..... *SAVE $25* $794.96
AA1064 X50B Kit..... 3 PAY $139.99 419.97
AZ0125 X50 Kit w/Torque Tube Tail/O.S.55HZ-R..... *SAVE $25* 874.97
AA1065 X50 Kit w/Torque Tube Tail..... 3 PAY $166.66 499.98

EASY PAY ON REQUEST

Flyzone Micro EP RTFs

AA1066 Playmate Red 18.5" ..... 2 PAY $39.99 $79.98
AA1067 Albatros DV WWI 14.5" .. 2 PAY $42.49 84.98
AA1068 Super Cub 17.7" ..... 2 PAY $44.99 89.98
AA1069 Fokker Dr.1 WWI 14.1" .... 2 PAY $47.49 94.98
AA1070 Nieuport 17 WWI 15.3" .. 2 PAY $49.99 99.98

Great Planes Mr. Mulligan EP ARF

Electrifly

EASY PAY 3 PAY $66.66 ON REQUEST

$199.98 AA1071

AZ0120 ARF/Motor/ESC Combo.. 3 PAY $112.66 $337.98

Wingspan: 52.5 in.

Heli-Max Novus™ 200 FP 2.4GHz RTF

Rotor Diameter: 15.3 in
Length: 16.5 in

EASY PAY 3 PAY $63.33 ON REQUEST

$189.99 AA1072

Great Planes G-44 Widgeon & PBY Catalina EP ARF Seaplanes

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EASY PAY ON REQUEST

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AZ0116 G-44 Widgeon EP ARF/2-Mtrs/2-ESCs . 3 PAY $116.66 $349.98
AA1073 G-44 Widgeon EP ARF 51" *$5 Gift Cert.* $59.99 179.97
AA1074 PBY Catalina EP ARF 53.5" *$5 Gift Cert.* $56.66 169.98

Great Planes Cherokee GP/EP ARF

EASY PAY 3 PAY $59.99 ON REQUEST

$179.97 AA1180

AZ0114 ARF/O.S. 46AX Eng Combo. 3 PAY $106.33 $318.99
AZ0115 ARF/Brushless Mtr/ESC ..... 3 PAY $119.33 357.99

Wingspan: 60 in.

FREE! Great Planes Dead Center Hole Locator with purchase. $7.99 Value! use stock # at left

Tower Hobbies Kaos 40 ARF

EASY PAY 3 PAY $44.99 ON REQUEST

$134.97 AA1075

Wingspan: 55 in.

AZ0123 2.4GHz Ultimate Combo..... 3 PAY $129.99 $389.97

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AA1076	6.5 Mode 2 w/Airplane Mega Pack	3 PAY $66.66	199.98
AZ0127	**6.5 Mode 1 w/Air Mega Pack/Heli Mega Pack Combo**	3 PAY $74.99	224.97
AA1077	6.5 Mode 1 w/Airplane Mega Pack	3 PAY $66.66	199.98
AZ0128	**6.5 Mode 2 w/Heli Mega Pack/Air Mega Pack Combo**	3 PAY $74.99	224.97
AA1078	6.5 Mode 2 w/Heli Mega Pack	3 PAY $66.66	199.98
AZ0129	**6.5 Mode 1 w/Heli Mega Pack/Air Mega Pack Combo**	3 PAY $74.99	224.97
AA1079	6.5 Mode 1 w/Heli Mega Pack	3 PAY $66.66	199.98

AZ0130	**6.5 Upgrade/Airplane Mega Pack Combo**	2 PAY $39.99	$79.98
AZ0131	**6.5 Upgrade/Helicopter Mega Pack Combo**	2 PAY $39.99	79.98
AA1080	6.5 Upgrade for G4 and Above		49.99

AA1081	Airplane Mega Pack	$32.99
AA1082	Helicopter Mega Pack	32.99
AA1083	Expansion Pack 4	29.99
AA1084	Expansion Pack 5	29.99
AA1085	Expansion Pack 6	29.99
AA1086	Expansion Pack 7	29.99
AA1087	Expansion Pack 8	29.99

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Futaba 2.4GHz Computer Systems

Radios

AA1088	6EX 6-Channel 2.4GHz FASST Radio System	3 PAY $73.33	$219.99
AA1089	6EX 6-Channel 2.4GHz Air/4 S3004 Servos	3 PAY $86.66	259.98
AA1090	6EX 6-Channel 2.4GHz Heli/4 S3001 Servos	3 PAY $89.99	269.97
AA1091	7C 7-Channel 2.4GHz Air Radio/4 S3152s	3 PAY $116.66	349.98
AA1092	7C 7-Channel 2.4GHz Air Radio/4 S3004s	3 PAY $106.66	319.98
AA1093	7C 7-Channel 2.4GHz FASST Airplane Radio	3 PAY $93.33	279.99
AA1094	7C 7-Channel 2.4GHz FASST Helicopter Radio	3 PAY $93.33	279.99
AA1095	8FGA Super 2.4GHz Radio System Mode 2	3 PAY $159.99	479.97
AA1096	8FGH Super 2.4GHz Radio System Mode 2	3 PAY $159.99	479.97
AA1097	10CAG 10-Channel 2.4GHz Integrated Air Radio Mode 2		649.99
AA1098	10CHG 10-Channel 2.4GHz Integrated Heli Radio Mode 2		649.99
AA1099	12FGA 12-Channel 2.4GHz FASST Air Radio		999.99
AA1100	12FGH 12-Channel 2.4GHz FASST Heli Radio		999.99
AA1101	12ZAP 12-Channel 2.4GHz FASST Air Radio	*SAVE $150*	1349.99
AA1183	14SGA 14-Channel 2.4GHz FASST Air Bi-Directional Radio	*NEW!*	599.99
AA1184	14SGH 14-Channel 2.4GHz FASST Heli Bi-Directional Radio	*NEW!*	599.99
AA1103	18MZA 18-Channel 2.4GHz Radio System Air		2999.99
AA1104	18MZH 18-Channel 2.4GHz Radio System Heli		2999.99

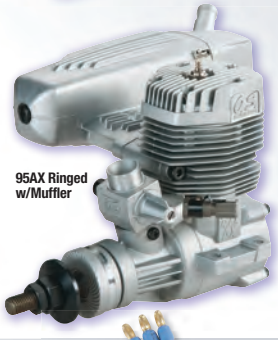
Receivers

AA1105	R2004GF 4-Channel 2.4GHz FHSS Receiver		49.99
AA1106	R617FS 7-Channel 2.4GHz FASST Receiver	2 PAY $44.99	89.98
AA1107	R6008HS 8-Channel 2.4GHz FASST Receiver	3 PAY $46.66	139.98

R2004GF 4-Channel 2.4GHz FHSS Receiver

R617FS 7-Channel 2.4GHz FASST Receiver

O.S. ENGINE®



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AA1109	55AX ABL w/Muffler	$56.66	169.98
AA1110	65AX ABL w/Muffler	$69.99	209.97
AA1111	75AX ABL w/Muffler	$76.66	229.98
AA1112	95AX Ringed w/Muffler	$93.33	279.99
AA1113	120AX Special	$109.99	329.97
AA1114	FS-95V Ringed 4-Stroke	$99.99	299.97
AA1115	FS56-a Ringed w/Muffler	$103.33	309.99
AA1116	72FS-a Ringed	$116.66	349.98
AA1117	FS81-a Ringed w/Muffler	$123.33	369.99
AA1118	FS110-a Ringed w/Muffler	$138.33	414.99
AA1119	50SX-H Ringed Hyper	$69.99	209.97
AA1120	55HZ-H Hyper Ringed	$99.99	299.97
AA1121	GT33 Gas	$139.99	419.97
AA1122	GT55 Gas		599.99

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		3 PAY	
AA1123	20cc Gas w/Electronic Ignition	$83.33	$249.99
AA1124	30cc Gas Rear Carburetor	$94.99	284.97
AA1125	55cc Gas w/Electronic Ignition	$123.33	369.99
AA1126	60cc Twin Gas		549.99
AA1127	111cc Gas w/Electronic Ignition		729.99
AA1128	170cc Twin Gas		1049.99
AA1129	222cc 4-Cylinder Gas		1649.99
AA1130	35cc Rear Exhaust Gas	$116.66	349.98
AA1131	55cc Rear Exhaust Gas	$139.99	419.97

Thunder Tiger® Engines

		2 PAY	
AA1132	GP .07 ABC w/Muffler		$59.99
AA1133	GP .18 ABN w/Muffler		94.99
AA1134	GP .42 ABC w/Muffler	$42.49	84.98
AA1135	PRO .40 BB ABN w/Muffler	$49.99	99.98
AA1136	PRO .46 BB ABN w/Muffler	$54.99	109.98
AA1137	GP .28 ABN w/Muffler		74.99

SuperTigre® Engines

- *All include muffler.*

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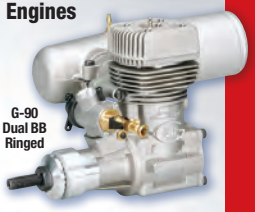

AA1138	GS-40 Dual BB Ringed w/Silent Muffler	2 PAY $37.49	$74.98
AA1139	G-51 Dual BB Ringed	2 PAY $49.99	99.98
AA1140	G-61 Dual BB ABC	2 PAY $59.99	119.98
AA1141	G-75 Dual BB Ringed	3 PAY $43.33	129.99
AA1142	G-90 Dual BB Ringed	3 PAY $46.66	139.98
AA1143	G-2300 Dual BB Ringed	3 PAY $56.66	169.98

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EASY PAY ON REQUEST

		2 PAY				2 PAY	
AA1144	.05 3805-1200	$29.99	$59.98	AA1149	.30 Outrunner 3825-750	$39.99	$79.98
AA1145	.10 Outrunner 3810-1050	$29.99	59.98	AA1150	.40 5010-810	$52.49	104.98
AA1146	.15 Outrunner 3815-1000	$29.99	59.98	AA1151	.40 Outrunner 5020-490	$59.99	119.98
AA1147	.25 3820-1200	$37.49	74.98	AA1152	.50 Outrunner 5025-375		
AA1148	.25 3820-960	$39.99	79.98		*SAVE $15*	$52.49	104.98

O.S. OCA Brushless ESCs

OCA-170HV 70A 50V

AA1153	OCA-150 50A 25V ESC	2 PAY $41.49	$82.98
AA1154	OCA-170HV 70A 50V ESC	2 PAY $59.99	119.98
AA1155	OCA-1100HV 100A 50V ESC	*SAVE $20* 3 PAY $59.99	179.97
AA1156	OCP-1 ESC Programmer		29.99

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SAVE $10

Triton EQ

Triton2 EQ

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Electrifly®

EASY PAY ON REQUEST

AA1157	Triton EQ AC/DC Charger	*SAVE $10*	2 PAY $59.99	$119.98
AA1158	Triton2 EQ AC/DC Charger	*SAVE $15*	3 PAY $61.66	184.98

Great Planes Balanced LiPo Batteries

Electrifly

3S 11.1V 1200mAh 30C

AA1159	2S 7.4V 250mAh 20C	$5.99
AA1160	3S 11.1V 1000mAh 30C	19.99
AA1161	3S 11.1V 1200mAh 30C	21.99
AA1162	3S 11.1V 1300mAh 30C	22.99
AA1163	3S 11.1V 2200mAh 30C	29.99

Great Planes Brushless ESCs

45A

Electrifly

AA1164	8A 5V/1A BEC	$32.99
AA1165	12A 5V/1A BEC	34.99
AA1166	25A 5V/2A BEC	39.99
AA1167	35A 5V/2A BEC	49.99
AA1168	45A 5V/2A BEC	59.99
AA1169	60A High Volt	99.99
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use stock # below

4YF

6J

8JA

AA1172	4YF 4Ch 2.4GHz FHSS Radio System	2 PAY $49.99	$99.98
AA1173	6J 6Ch 2.4GHz S-FHSS Radio	3 PAY $59.99	179.97
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Scott Stoops
smstoops73@gmail.com

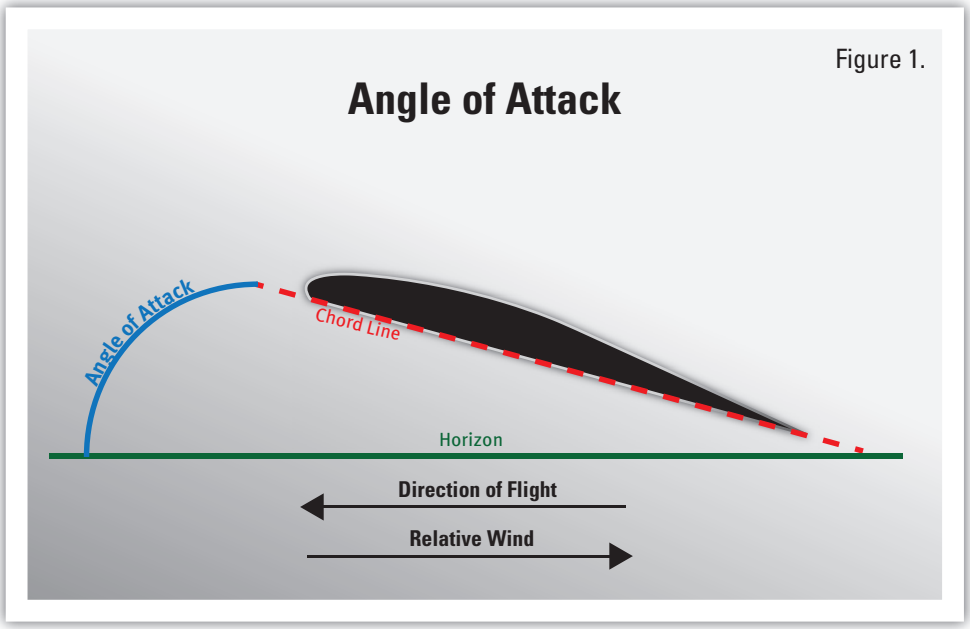
Understanding angle of attack

by Scott Stoops
smstoops73@gmail.com

On a trip with family and friends to Mexico, we were lucky enough to end up in the last row of coach for the four-hour flight. Sitting across the aisle from a family friend, he queried as to why it seemed as though we were severely tilted nose-up, even in cruise flight. In my typical wordy fashion, I proceeded to outline the basics of flight and specifically the angle of attack (AOA).

Seeing his eyes glaze over after a minute or so, I decided that this column would make a better vehicle for that discussion. Let's explore AOA, some common misunderstandings new pilots have about stalls, and some common recovery techniques. Let's start from the beginning.

Figure 1.



Wings create lift. They do this primarily by manipulating the AOA. AOA is the difference between the chord line and the flight path or relative wind of a wing. Not unlike sticking your hand out the window of a car with it tilted slightly up, a wing creates down force through both its shape, but primarily, the angle it addresses the oncoming air. This is AOA (see Figure 1).

Although the basic shape of the airfoil contributes to the efficiency of the wing and its ability to create lift, the primary factor in lift creation is AOA. Based on the design of the wing and airfoil section, there is a maximum AOA at which the wing section will continue to produce lift. Flight beyond that AOA causes the airflow to become extremely turbulent and detach from the upper surface of the wing. This detachment results in a loss of lift, or a stall. The specific stalling AOA is a constant for that particular wing.

Stalls have absolutely *nothing* to do with a power failure of the motor or engine. In fact, unpowered aircraft such as sailplanes can also stall. Stall is an aerodynamic term that only relates to exceeding the critical AOA.

During normal flight in most types of airplanes, we avoid flying the aircraft at or close to the critical AOA. It is, however, important to be familiar with the stalling characteristics of your model. Learning to stall your model allows a higher level of awareness of the energy state of the airplane with regard to AOA. Practice is the only way to become familiar with and competent at stall and recovery.

For the airplane to stall, an AOA that exceeds the critical AOA must exist (see Figure 2). In the case of practicing stalls, the best place to start is from level flight with plenty of recovery altitude. You can intentionally stall the aircraft by increasing the elevator input and holding it in an increasing pitch attitude while reducing the power of the motor.

As the aircraft exceeds the critical AOA, airflow over the wing will "detach" from the wing's upper surface, causing some buffeting and usually a pronounced pitching moment toward a nose-down attitude. Most models have a critical AOA of approximately 17°. Recovery is simple, but not instinctive.

With the nose now pointing slightly down (probably below the horizon), you must reduce the up-elevator input to let the wing recover to a flying AOA. This is not instinctive, because in normal flight we would apply up-elevator when the nose is below the horizon to correct for level flight.

In stalled flight, it is critical to allow the wing to start flying again by lowering the AOA even further. Often, simply releasing any elevator input back to neutral is enough to get the recovery started. This reduction in AOA generally coincides with an increase in thrust and, once the wing is no longer stalled, a gentle correction back to level flight.

Stalls in All Attitudes

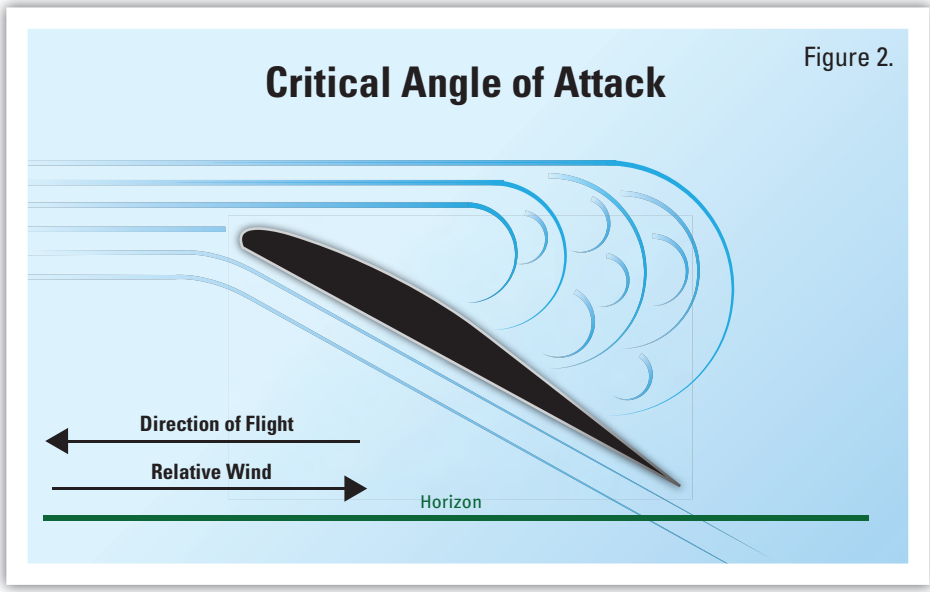
Now for the confusing part! The previous example was for level, decelerating flight. Stalls occur when the critical AOA is exceeded, which means they can occur in any pitch attitude. A stall can occur when

the aircraft is pointing straight up, straight down, inverted, or at any pitch attitude as long as the critical AOA is exceeded. This is generally tied to a large elevator input, but can also occur with small inputs at higher speeds.

A stall can occur at any airspeed (it is not necessarily a slow speed event, but rather, a high AOA event). This can be confusing to new modelers, because the traditional diagrams of the stalling AOA depict an aircraft in level flight as I have explained.

A model can be stalled going straight up in a loop. If the pilot pulls too hard on the elevator control stick (displacing the elevator up), the critical AOA can be exceeded and the wing will stall while the airplane is pointing straight up. The same is true if the pilot pulls too hard on the elevator during the backside of a loop while pointing straight down.

A good indicator that the model's AOA is near the critical AOA is the position of the elevator. For the AOA to be high, the elevator has to be significantly displaced. So, wings stall at a specific AOA, not at a specific pitch attitude (see Figure 3).



3-D Flight

The next logical question would be how 3-D airplanes can be flown beyond the critical AOA if lift significantly decreases when the wing stalls. The simple answer is thrust. They use thrust to replace the lift lost from the stalled wing.

If you'll note, most 3-D airplanes have dramatically oversized flight controls and optimized airfoils that allow full control through thrust vectoring and clean transition in and out of stalled flight. As your skills

improve, consider learning some of the basics of 3-D flight, because it can only make you more comfortable flying at AOAs around and even beyond the stall!

Take-Away

Although it can be scary to slow your model to the point where you're uncomfortable with how it is going to perform, learning stalls and stall recovery is critical to becoming a well-rounded RC pilot. Start high, and with a buddy box if necessary. Most importantly, remember that simply releasing the elevator input will often allow the model to recover on its own!

In the columns going forward, I'll do my best to further explore stalled flight through some 3-D maneuvers as well as snap rolls and spins, so give the basic stall a try.

Fly safely, and remember that learning is fun, and fun is what this great hobby is all about.

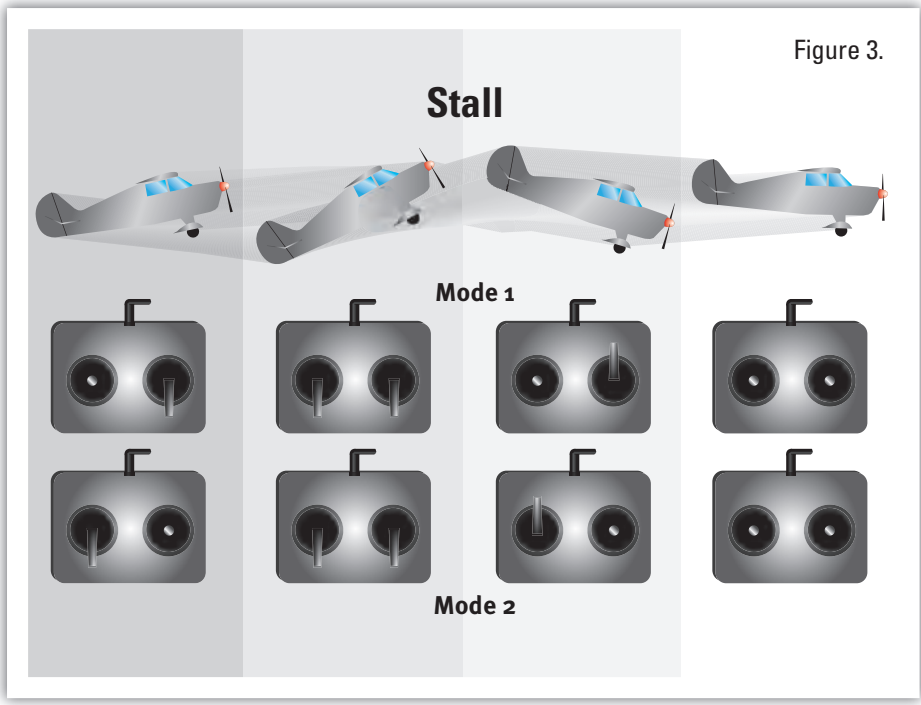


Figure 3.

think performance.

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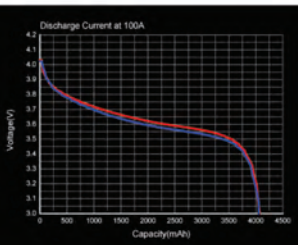

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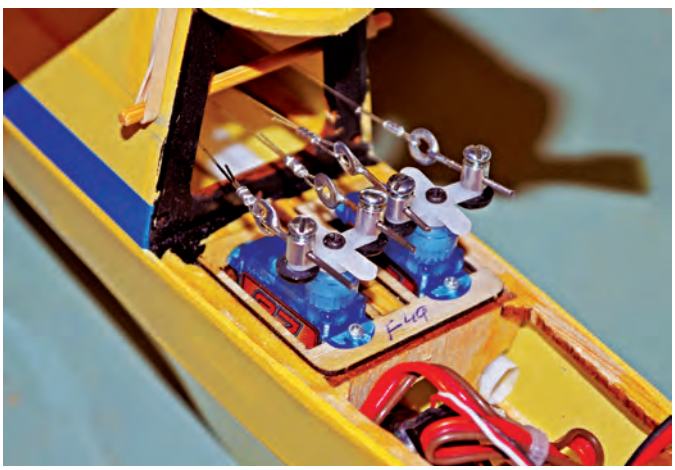
RC Advisor online newsletter

Q564: You mentioned a while back that a new online newsletter had been started that was proving to be very interesting. Is this free service still being provided? Tell me why I might want to sign up.
A564: The RC Advisor online newsletter was started last year by Carlos Reyes, who resides in New Mexico. It is alive and growing. Carlos recently indicated that he has more than 10,000 subscribers. He posts a new edition weekly, typically on Friday. Each newsletter has between six and 10 new items of interest.

The subject matter covers all aspects of our hobby. Generally, Carlos supplies video presentations that he has made for the benefit of modelers. Each video is brief but thorough, the subjects are interesting, and there are follow-up references.

This newsletter service is free. Sign up, and each week a new posting will be sent to your email address. There is neither advertising nor banners. That may change because Carlos must eventually be able to make a living providing this service.

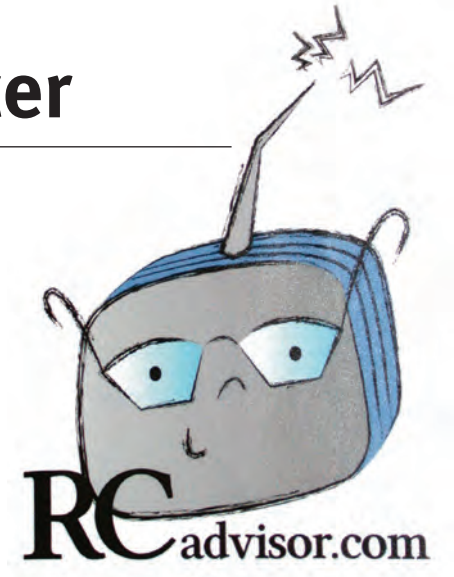


The screw on the top of the Du-Bro EZ connector will allow you to adjust the tension of your control wire or thread. It's a simple, effective solution to an old problem.

You asked for a reason that would justify signing up to receive RC Advisor. The recent RC Advisor, Number 33 (they are sequentially numbered), provided a website that lists 20 sources for free model aircraft plans. You may have seen some of these plans referenced before, but in this case, 20 are listed in one place. I've included the link for RC Advisor Number 33, which contains this free plans listing, in the "Sources" section.

I've also listed the RC Advisor website where you can sign up to receive regular postings. That site will direct you to a page that allows you to look up every previously posted RC Advisor since its inception. Try it. I think you will be surprised and pleased.

Carlos has a logo that appears on decals and T-shirts. I included a photo of the new logo.



This is the new RC Advisor logo that is on T-shirts and decals supplied by the newsletter's creator, Carlos Reyes. Published with permission.

Pull-Pull Control Wire Installation

Q565: I'm looking for a pull-pull control wire hookup for a scale model project. I want to run a cable to either side of my rudder, rather than a length of semirigid wire running inside a tube. Can you point me to a solution?
A565: I think you can tell that I tend to keep potential answers cataloged in files, waiting for a suitable question to arrive. This was one of those cases. My longtime friend, Jerry Smith, who was published in the former *RC Modeler* magazine for approximately 30 years, sent me a simple scheme that he came up with for installing a pull-pull control setup for a rudder, elevators, or ailerons.

The photo tells most of the story. Jerry used short lengths of .032-inch diameter wire, probably no more than an inch long. He soldered a Number 2 washer to the end of the wire, which is held to the servo output arm with a Du-Bro EZ connector.

You then connect flexible wire or thread from the washer to the control horns on your control surfaces. You can loosen the EZ connector screws and pull the wire or thread to obtain the right tension and then retighten the screw. This works easily and allows for adjustments, even at the flying field.

Thanks, Jerry!

Scale Aviator International

Q566: A friend told me about this new online RC Scale aircraft publication. I haven't located the website yet. Can you provide me with some detailed information?
A566: From what I have learned, the Scale Aviator International digital online magazine was launched in early 2012. It was created and is edited by Sam Wright. I've listed the homepage of this new website in the "Sources" section.

When you first look at this site, you will notice that it offers a 25-page sample. This should give you a good idea of the content. I noted articles about scale techniques, Scale aircraft reviews, scale detail information, and construction.

You can view Scale Aviator International on your PC, Mac, and

The new Scale Aviator International is a digital online publication that covers all aspects of RC Scale aviation. Photo courtesy of Sam Wright.

on laptops in a double-page landscape format. It is also viewable on your smartphone or iPad. Subscribers can email articles, save them to their desktops as PDFs, or save an article or an entire issue to their archives for future reference and bookmark the pages.

I'd appreciate hearing any comments from my readers.

Receiver Binding Suggestion

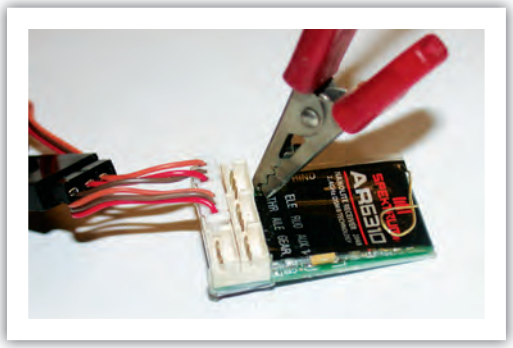
Q567: Binding a spread spectrum receiver to a transmitter typically involves the temporary use of the binding or shorting plug that is provided with the receiver. This is the case that I have found with many Spektrum RC systems.

I recently bought a new Spektrum AR6310 microreceiver and noted that it didn't come with a binding plug. I learned that to bind this particular receiver to my transmitter, I had to bend two pins until they touched (like a short out).

When finished, I have to unbend or break this connection. There *must* be a better way!

A567: There is, thanks to reader Frank Pisano. Frank didn't like bending these two pins either, so he attached a small alligator clip across the two pins and got the same result.

After the binding process is completed he removes the alligator clip, then the power to the receiver. The last step is to turn off the transmitter. When you are ready for another flight, the transmitter is turned on first and then the receiver.



Instead of bending these binding pins, Frank Pisano suggests using an alligator clip. Disconnect the alligator clip before removing the power from the receiver. Bob Aberle photo.

If you follow my instructions, you won't have a problem. If you remove the receiver power first, then the alligator clip, the next time you go to fly the binding will be gone and you will have to repeat the process.

The instructions aren't clear. Once again, remove the alligator clip (or the binding plug as the case may be) *and then remove the power to the receiver.* Thanks, Frank!

SOURCES:

RC Advisor
http://rcadvisor.com

RC Advisor Number 33
http://rcadvisor.com/best-free-model-airplane-plans-websites

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Small-field flying and foam board go together

When it comes to building models for small flying sites, there are two important factors: light weight and durability. Light weight translates into slower flying speeds and durability is important because of the increased chances of hitting objects when flying in a confined space.

A material that has become popular for building lightweight models that can take some punishment is foam board. It is inexpensive and readily available. It comes in colors or in white sheets, which can be easily decorated with colored markers or light applications of spray paint. You can get quite creative with foam-board models.

The benefits of foam board as model airplane construction material have not been lost on longtime modeler Bill Welle of Nokomis, Florida. Bill has built many models from balsa but is also exploring foam board as a primary construction material.

He sent me a photograph of his enlarged Ed Lidgard-designed Sparky. Bill's version has a wingspan of 48 inches and is made from $^{3}/_{16}$-inch foam board. The model is powered by a Turnigy 2820 outrunner (Hobby King) electric motor that gets energy from a two-cell 1300 mAh LiPo pack.

Bill Welle built this 48-inch version of the Ed Lidgard Sparky using foam board.

Bill also built a successful autogyro wing for his foam-board Sparky.

Another foam-board-based small-field flyer is the HIM1 by Ike Medina and Ron Rizzo.

Bill said the original Sparky was a rubber-powered FF model, but the enlarged foam-board version is a nice-flying RC model. See the "Sources" listing for Hobby King.

Bill has also built an autogyro wing for the Sparky using foam board. That configuration of the model is also reported to be a great flier. Nice work, Bill!

A couple of other modelers who are reaping the benefits of foam-board construction are Ike Medina and Ron Rizzo of the Florence, Arizona, area. Ike and Ron like the low of the material, the

Bob Aberle's 100-square-inch version of the Kiel Kraft Outlaw.

variety of colors, and the satisfaction that comes from designing their own models.

A result of their efforts is shown in one of the photos. The aircraft has a 30½-inch wingspan, weighs 17.6 ounces, uses a 2212/6 motor from RC Hot Deals, and requires a three-cell 1100 mAh LiPo battery pack. See the "Sources" listing for RC Hot Deals.

ParkZone Ultra Micro P-51

Shortly after its introduction, the ParkZone Ultra Micro P-51 became a popular subject for modeler-applied markings and modifications to enhance appearance.

I received a letter from Angelo Manatas of Skokie, Illinois, that included a photo of his nicely re-marked ParkZone Ultra Micro P-51. In addition to replacing the factory markings with those of the full-scale Detroit Miss P-51 Mustang and adding landing gear covers, Angelo replaced the solid foam canopy with a clear plastic unit from Park Flyer Plastics.

The dressed-up Ultra Micro P-51 looks sharp. If you would like a canopy such as the one Angelo used, see the "Sources" listing for Park Flyer Plastics.

Bob Aberle Continues to Design

If you have read this column in recent years, or seen the online publication RC Micro World, you know that *MA* columnist and technical editor, Bob Aberle, is a prolific model airplane designer and builder. I am pleased to share with you one of his latest offerings.

It is a reduced size, 100-square-inch version of the Kiel Kraft Outlaw. It has a flying weight of 5.1 ounces and is powered with an E-flite Park 180 motor. The go juice for the motor comes from a two-cell 450 mAh LiPo battery pack. In addition to reducing the size of the model, Bob made it a tail-dragger rather than the original tricycle landing gear layout.

Bob reports that the model is a nice flier. You can get a copy of the full-size

plans by subscribing to RC Micro World. See the "Sources" listing.

Carl Hock's 1961 Septalette

In my October 2012 column, I showed you some of the models I saw at the 2012 Small Model Airplane Lovers' League (SMALL) event. A photo of Carl Hock and his two Septalette models was included with the column. That design first appeared in a 1961 issue of *Grid Leaks*.

The original model was for $^1/_2$A glow power and single-channel radios. Carl redrew the plans in CAD for both glow and electric power, with control supplied by modern multichannel radios.

Both plans are available for free download from my website. You will find them at the address listed in "Sources." Go to the downloadable plans link and then the RC models link.

This brings me to the close of this column. As always, let me know what you are doing in the world of small-field flying.

SOURCES:

Hobby King
www.hobbyking.com

RC Hot Deals
(503) 766-4119
www.rchotdeals.com

Park Flyer Plastics
(817) 233-1215
www.parkflyerplastics.com

RC Micro World
www.fullsizeplans.com

1961 Septalette
www.parmodels.com/Plans/Septallete.htm

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Using a clear canopy from Park Flyer Plastics, Angelo Manatas reworked the markings of his ParkZone Ultra Micro P-51 to those of the full-scale Detroit Miss P-51 Mustang.

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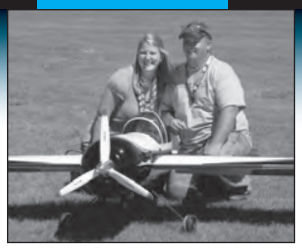

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Don's Flight Tip

Needless Crashes

I hate it when modelers needlessly crash planes for the same reasons that thousands of other modelers have already experienced. Let's learn from other peoples mistakes. There is no new reasons why modelers crash planes - only new names for old problems and new systems with the same old issues.

If you don't know what makes them crash then a crash is inevitable. Hopefully no one gets hurt in the process.

If you want to learn the systems and procedures to properly setup your large aircraft and avoid the crashes that others have already experienced, then you can benefit from our newly released 4th edition, highly illustrated book Gas Engines – Giant Planes. You can order your copy by calling 800-972-6273. You'll be glad you did.

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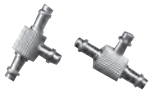

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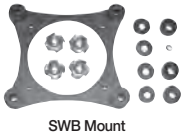
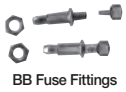


SWB Mount



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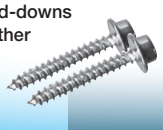

Newly Released Third Editions

Crosswind Flying has been recommended by 2 AMA Presidents and numerous NSRCA Presidents and VP's for good reason. It contains a wealth of aerobatic and crosswind information that educates modelers so they can learn the tips and tricks the pros use to fly safely and more precisely. $9.95

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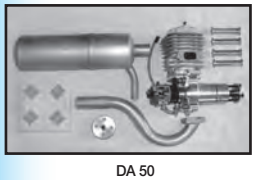

DA 50


DA 100L

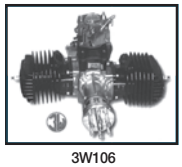

Evolution 40GX


DLE 111cc

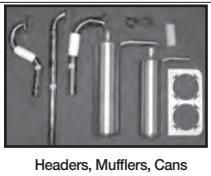

DLE 55CC

DA 150

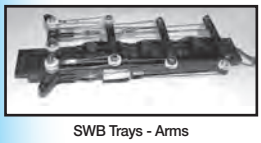

DLE 222


3W106

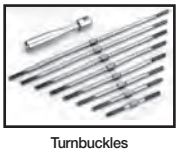

Large Starters


Headers, Mufflers, Cans


Prop Balancer


SWB Trays - Arms


Throw Meters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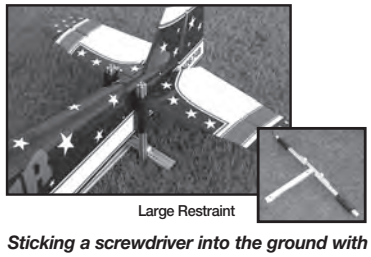
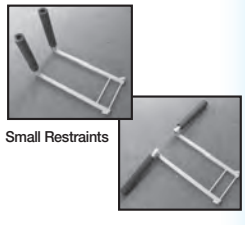
Plane Restraints


Large Restraint


Small Restraints

Sticking a screwdriver into the ground with a rope tied to the tail is an accident waiting to happen. I know, I take the calls—usually after the modeler has seriously hurt himself. The smaller version is for planes up to 30% and the large version is used on 30–50% planes. Arms fold down flat on the ground after starting. Very popular—call for pricing.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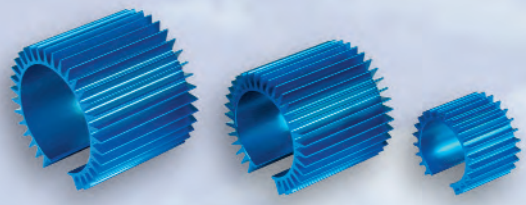

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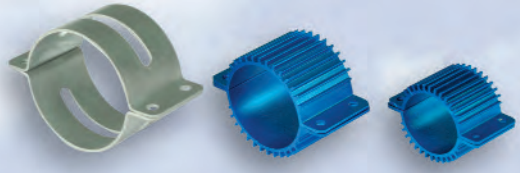

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However you get there, flying is fun

Back in the old days, if you wanted to fly a model airplane, you had to build it. Those times don't seem so long ago to some of us, but in 2013 a large portion of AMA members are pilots first, rather than builders. They purchase airplanes and helicopters that are nearly flight ready and take them straight to the field.

Some cool RTF aircraft are available, and some are nicer than I could ever construct. Many builders feel that buying such airplanes is a shame because making a model is half the fun.

I believe that there are enough interesting niches in our hobby to suit everyone. Whether someone wants to tinker at the workbench, or simply put something into the air, getting off the ground is the point, right?

Beware of the Cub in the sun? Bill Kuhl's Piper Super Cub, made from a Guillow's rubber-powered kit, is cruising by, not waiting to pounce.

Bringing Balance

It's surprising that, after all of these years of advancement in model aircraft, there are still basic lessons that pilots have to learn the hard way. Airframe balance is a crucial one.

My club works with middle school students, and they are sharp. When I show them a video compilation of RC airplanes crashing (always a crowd-pleaser), they ask, "Dave, how come they keep trying to fly all those tail-heavy models?" Good question!

Clip after clip shows a model struggling off the runway, obviously out of balance, and the youngsters can see the reason.

The answer is that the pilots either didn't know better, or were trying to cut corners and get a flight in without properly balancing their models. Down goes the beautiful, expensive airplane because of lack of ballast in the nose. It's a shame, but entertaining to watch!

I learned this lesson at less cost when I was a lad. In those days, for less than $1 you could buy North Pacific slip-together rubber-powered models such as the Sleek Streek, Star Flyer, and Skeeter. (I still collect them, and they are sold at higher prices now!) The little airplanes went together with plastic clips that held the wings to the motorstick.

If you had enough extra parts, you could create something new and more complex. I did, but was disappointed to find that it fluttered to the ground instead of zooming skyward as I intended.

My father pointed out that it was tail-heavy and required ballast on the nose. No way! I thought that extra weight could only hurt the performance of my model. Of course, Dad was right (not for the first or the last time), and a little lump of clay allowed the airplane to fly as I had hoped.

This concept is difficult for a newbie to accept, and the crash videos prove it.

Balance is critical for stable flight. Check your model for proper CG, even if it is ready to fly. Don't be shy about adding weight if needed. You don't want your model to be the star of a crash video.

A Burning Issue

Daniel Rossman told me about a fiery episode with his electric power pack. He had a new six-cell battery pack, and attempted to remove the Velcro. While holding the pack by the body, not the pigtail, he pulled on the Velcro and noticed that the heat shrink appeared to pull up from the pack. Suddenly, the pack lit up. Fortunately, it was on a metal surface on his workbench.

Daniel dropped the pack on a metal chair, opened the garage door, and got the pack onto the driveway. He said that the smoke alarms rang for a long time!

Apparently, only one of the six cells burned. The other five cells and the pigtail/connector looked as good as new. Daniel said that, based on the amount of flame he saw, if all six cells had burned it could have started a house fire.

This story reminds us that our battery packs can suddenly release energy when we least expect it. Even a new battery should not be taken for granted.

Fliers should store these in fire-resistant containers and charge them outdoors. Don't become complacent!

If Daniel had not acted swiftly, the situation could have been more serious. What if he had not been there when the pack ignited? There are still some modelers who charge their packs

unattended. Sure, you might get away with it for a long time. And then again, you might not.

Trouble Brewing

Jim Rice passed along a story from an anonymous modeler. This is third-hand information, but Jim is an experienced and distinguished modeler and I know he is truthful and reliable (when he's not telling corny jokes).

Jim's friend was mixing various hardeners together for his epoxies. He is not sure of the exact blend, but knows he combined two different brands of epoxy hardener and then put in some hardener for Bondo. He had not mixed in any glue, only the hardeners.

Suddenly, the metal container began to emit smoke and became scalding hot. He was able to carry it with a pot holder of sorts to his patio where the mixture became bubbly and yellow and emitted more smoke. It was roughly a pint of mixture and the reaction continued for approximately 30 minutes, and was too hot to handle.

Want a definition of quick and dirty? Young modelers helped Dave convert this toy glider to RC for fun and flight training.

Had he been in a closed shop or had the mixture been in a plastic container, there is no telling what it may have done to him or his home. He was concerned that many modelers would not know that such a concoction could be dangerous and possibly deadly.

Jim said that the lesson learned is that chemicals should be used for their intended purpose and only with products recommended by the original manufacturer. When we try various combinations, the results are not always what we expect or want.

Quick and Dirty

The RC radio makers at Hitec RCD

USA didn't expect or want one of their Zebra systems to fall into my hands, but it did, so the club kids helped me convert a big, toy foam glider to RC. It requires little equipment but requires the lowering of one's aesthetic standards.

The photo shows how we used a tape hinge to hold together scrap balsa control surfaces, and then ran pull-pull string from the servos to toothpick clevises. The radio components are crammed into the fuselage and taped into place.

In the hands of a young, first-time pilot, crashes are assured, but the radio system is easily moved to the next airframe!

AMA has taken delivery of some of these radios through the generosity of Hitec RCD USA. Perhaps the company *did* know what would become of them.

Triplane Motorcycle

It's not really a flying model, but I *had* to share the photo of Greg Inkmann's Fokker triplane motorcycle. There's a 1983 Suzuki Tempter 650

With three wings and two wheels, it *has* to be good! Greg Inkmann produced this vehicle using his RC building skills and modeling materials.

engine in there, but with those flying surfaces, it appears to be more of an art piece than a practical vehicle. Greg is a modeler and has many other skills and interests.

SOURCES:

Greg Inkmann
www.biplaneventures.com

Hitec RCD USA, Inc.
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Greg Gimlick
maelectrics@gimlick.com

People *do* read this column!

I'm not alone! Sometimes I wonder if anybody really reads these columns, and then I write something that brings out the responses and shows me that people do! Such was the case with my October 2012 column concerning high-powered electrics.

Space is short, so I'm going to get right to the emails.

Find past issues in the new digital Library!
Visit www.ModelAviation.com, click on Library, and search for author Greg Gimlick.

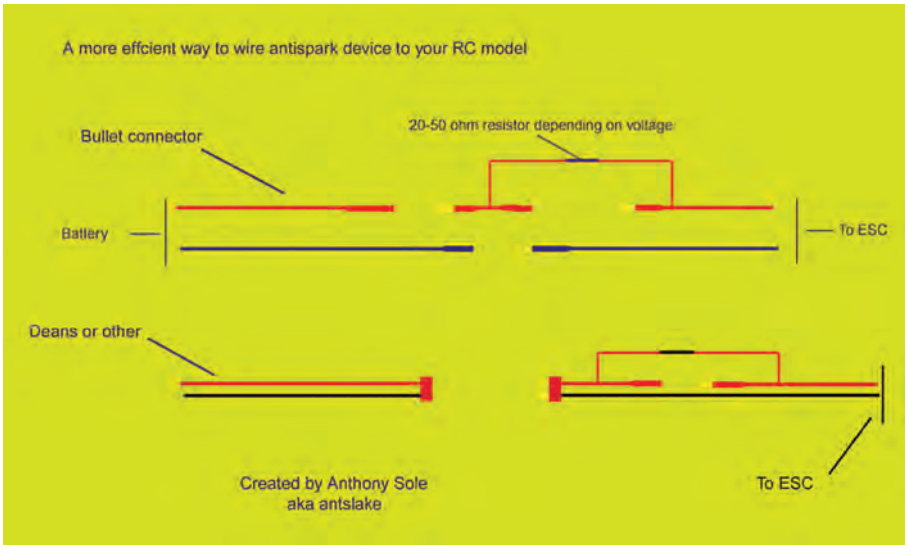
A Better Solution

I cautioned about keeping connectors labeled and checking twice before connecting them for a series connection. I failed to discuss the obvious solution and Scott Bland contacted me about it with the following:

"I have been flying four different airplanes with a 12-cell setup for the last four years and have come up with [a] method that is 'pilot' proof (really me proof) for making the series connection safe and foolproof.

"I make my own series connectors that have one type of connector that connects to the batteries and a different connector that goes to the speed controller. They cannot be incorrectly connected. I also have a safety connector that makes the final connection, which I plug in when I'm behind the wing, just in case. I have attached a picture of my setup."

I label my adapters so I can easily see if they are parallel or series adapters.



Anthony Sole offered his solution to wiring an antispark device.

Several people wrote with similar suggestions and I appreciate that you caught that omission. I use serial and parallel adapters all the time, and one of the things I do to protect myself from "me" is label the connectors with a "P" for parallel or "S" for series. It's easy to grab the wrong adapter out of a box and this makes it obvious without having to trace wires to determine the type.

The Antispark Device Issue

A few of you wrote with various opinions about using antispark devices. Anthony Sole offered this:

"I thought of a better way to wire up your models for antispark devices. My way will save you money, and be less work in the long run. The way you published will require you to have an antispark device on each battery pack. My way won't.

"You would only need one male and female bullet connector, and one resistor on each ESC. See the attached diagram I made in Photoshop. No modification to the battery pack is required."

I've included the drawing he was kind enough to share.

Do Not Do This!

I went to eWeek at Triple Tree Aerodrome last fall and was shocked at some of the things I saw. There were many *extremely* big airplanes and some using as large as 14S packs. In one of the pits, I saw the jury-rigged connection shown in one of the photos.

Do not force different types of connectors together. Necessity may be

the mother of invention, but this is a recipe for disaster!

Charging

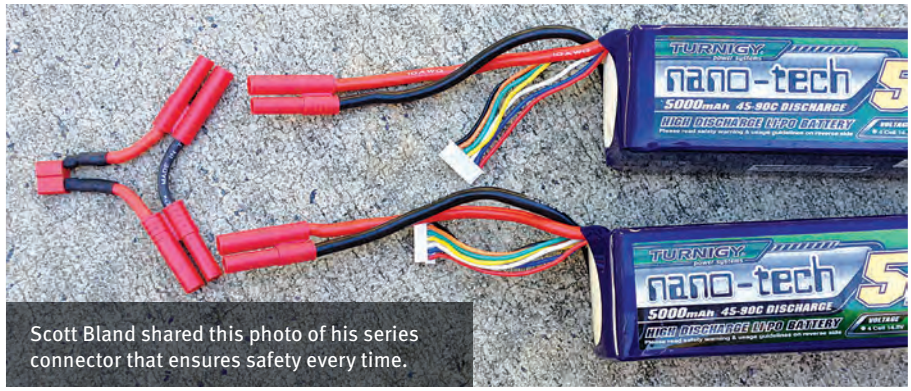
This could be an entire column, so I will only mention that I saw some terribly dangerous setups at eWeek. Use the proper parallel boards and mind your connections to power supplies. Be sure nothing can short out!

Arming Switches

Several of you took me to task for not showing arming switches. I use them on some airplanes and not on others.

Maxx Products makes a good line with various connector styles if you want to use them. I can make arguments for and against their use depending on your mission. They *do* provide a nice safety feature; there is no argument about that.

Recipe for disaster! This is a Deans connector jammed into an XT-40 connector.



Scott Bland shared this photo of his series connector that ensures safety every time.

Throttle Hold

Helicopter pilots are accustomed to this, but most of the fixed-wing fliers are not. Some radios, such as the Spektrum DX-7s, provide this option for both heli and airplane programming. Other radios don't have it as a default setup, but they can be programmed using a mix.

I set them up on all of my airplanes and helis so I can disarm the ESC from the transmitter with a flip of a switch.

Taking Off

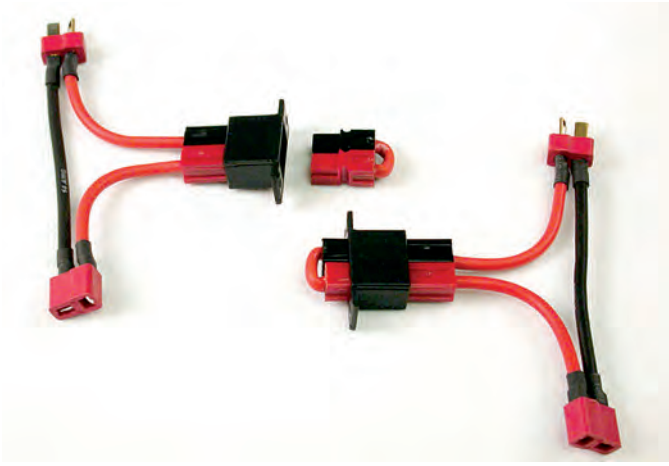
Nobody likes to talk safety, but in the case of large electric-powered aircraft, it's necessary to watch out not only for yourself, but for those around you. Offer a helpful suggestion without sounding confrontational.

Keep writing to me—even those who just want to call me an idiot for missing the obvious! Of course, those of you with great photos and suggestions are appreciated even more.

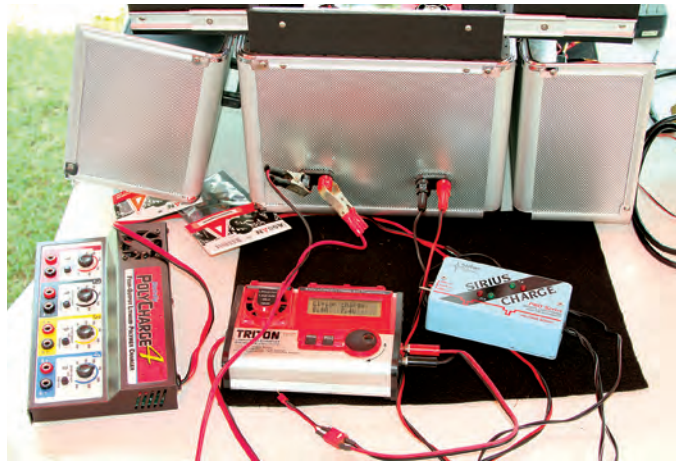
SOURCES:

Maxx Products
(847) 438-2233
www.maxxprod.com

W.S. Deans Co.
(714) 828-6494
http://wsdeans.com/index.html



Maxx Products makes great arming switches with various connectors available.



This is a well-thought-out charging box, but that big set of battery clips connected to the output is begging to be bumped and short against itself.

Bob Angel
samrcflier@verizon.net

Dick McCoy and his engines

Mike Salvador's son anchors a diesel-powered bomber as Mike checks the rpm for a Texaco flight at the 2012 SAM Champs. Photo by Rosalia Salvador.

The McCoy 60 engine is the dominant competition engine used today by Society of Antique Modelers (SAM) RC fliers in the large spark-ignition classes (Class C LER and Antique). It's used less by SAM FF fliers, because their preference usually leans toward less-powerful, more docile-handling engines such as Super Cyclones and Ohlssons. For FF, a controlled, steady climb is generally more critical than pure power.

The McCoy 60 was born as a racing engine and was the first in a long series of McCoy engines produced in many sizes for many uses. Oddly enough, Dick McCoy never got involved in model aircraft during his lifetime. He built and promptly crashed one FF model before moving on to tether car racing, where his engines dominated until the Dooling engines began to share the awards.

Dick was a machinist by trade, which fit into car racing where the emphasis was on machining and hopping up engines. He set a national tether car speed record with an early engine and the McCoy became *the* engine for car use.

The model car engines had short shafts with flywheels. But when CL Speed fliers discovered them, extended shafts with propeller drives were offered. They quickly dominated CL Speed circles. Smaller sizes (.49 and .29) of that basic design appeared and began setting records as well.

Production began on .55 and .36 sizes, but because of some rules changes, they became obsolete for CL Speed and were altered into the "sportsman" series. The .49 engine also became obsolete for Speed, and a new .19 size was added for Class A racing.

Nearly 100 different McCoy versions in at least 10 different displacements have been described in good detail in the *Model Engine Collectors Journal*, January 1981 and December 1992 issues.

The Dooling .61 engines became more dominant in race cars, as well as often running neck and neck with McCoys in CL Speed. Dooling hp peaks at a higher rpm, and works well with race car gearing.

Today the McCoys seem to have an edge with the bigger propeller load required by the old FF designs. McCoys were produced in greater numbers and are currently more available and less expensive than Doolings.

The Duro-Matic Company, and later Testors, partnered with Dick McCoy for mass production of the McCoy line. But Dick and his two sons have also operated machine shops producing many products, including glow plugs, race cars, and RC car-racing items, as well as parts for various full-scale aircraft companies.

I never met Dick McCoy, but I'm sure I'd often and unknowingly watched him run tether cars with his group at Fourth Street Park in Ontario, California, after our CL club had finished flying. Many of us flew with McCoy Stunt engines in the circle next to the car track.

To read more of Dick's biography, check out the Hall of Fame section on AMA's website listed in "Sources." The five-page article covers much more

about his awards, work, and family life. Dick worked in his shop into his later years and passed away in 2005 at age 98.

Tips for OT Fliers

For a change of pace, I'll share some tips aimed at Old-Timer (OT) fliers and anyone else who builds, rather than just assembles, models. Some are my own, but most were extracted from any source that looked useful and wasn't copyrighted.

SAM 26 Newsletter readers should recognize many because they've probably all been published there throughout the last 20 years. I've condensed them to squeeze in as many as possible. True model builders only need a basic idea and can usually carry it out just fine.

Useful Tools and Materials

Harbor Freight Tools is one good source of inexpensive tools for many of these tips.

1. A small squeeze-bulb blower (at approximately $2) for cleaning computer keyboards can inflate Trexler wheels, blow dust from your camera lens, etc.

2. A router speed controller makes an excellent soldering iron heat controller. It also controls speed for Dremel tools, drill motors, or any brushed AC motor.

3. A rotary hole punch, used in leather crafting, can punch accurate screw holes when making engine gaskets.

4. High-temperature silicone gasket material squeegeed and roll-pressed into coffee filter paper makes useful gasket material.

5. Dawn Power Dissolver (Walmart cleaning section) is a great cleaner for baked-on engine goo.

6. Acetone or MEK (butanone or methyl ethyl ketone) cleans residue off of cooled covering irons.

7. Bounce dryer sheets clean warm irons better. Pretend you're ironing the sheet down. (Bounce also repels mosquitoes.)

8. Evapo-Rust is an effective rust treatment. You immerse items in the liquid.

Construction Tips

1. Torsional rigidity can be increased by modifying most wing rib construction to add cap strips.

2. Ace Hardware's lightweight drywall filler makes good filler for dings in balsa and a good sanding sealer.

3. Glue doesn't stick to the backing material from iron-on film covering. Use it to isolate glued parts from anything else.

4. Use square brass tubing rather than round for wheel axle bearings on rubber and other lightweight models. The wheels don't get as sticky and debris can be flushed out easier with air pressure or a quick shot of solvent.

5. Remove warps or set wing washout on a covered surface with an old hot-air popcorn popper with the top removed. You may also enlist some help to heat the upper surface with a heat gun while the popper heats the

The RC flightline at the 2012 SAM Champs shows the well-separated FF area appearing as white tents in the upper background. Salvador photo.

John Eaton's 9-foot Westerner, powered by an open-rocker O.S. .60FS, was built more than 30 years ago by Eut Tileston. John recently re-covered the fuselage.

bottom for a more even job with less wrinkling.

Safety Tips

1. Don't store diesel fuel in a shop refrigerator. Leaking ether could explode when the light comes on.

2. Save your spark coil. Use the RC throttle stick, not a transmitter kill switch, to stop an ignition engine. The kill switch reenergizes the coil after release.

3. Wooden propellers display the spirit of OT models better and are much safer in the event of a propeller strike.

Useful Techniques

1. The spray-on product K2r works well for rescuing oil-soaked wood. Wood can be further strengthened with an application of thin CA, which seems to enjoy bonding with oil-soaked wood. Spread the CA evenly with film cover backing.

2. A better way to end splice multistrand wires after stripping and fluxing is to splay the strands apart just enough to push them straight together end to end. Solder and heat shrink will then leave a smaller bulge and a straight joint.

3. Your cellphone number on a model ID tag might result in an errant model being returned before you head home from a big meet.

Engine Operation

1. Using a starter on an old engine unequipped with double ball bearings often causes internal damage.

2. Jamming a running starter against any engine is bad practice. If the starter battery is weak, first turn the propeller backward against compression so the starter can get a run at it.

3. The backward-flip hand-starting technique works only with glow engines, not spark ignition.

4. Seventy-weight motor oil keeps engines free of buildup for years, but castor gums them up.

5. Most frozen engines can be freed up with a covering heat gun, patience, and reasonable pressure against the propeller. When the piston first moves, add the same type of solvent or the fuel last used, and you're home free.

SOURCES:

AMA Hall of Fame
www.modelaircraft.org/museum/hoflist.aspx

Harbor Freight
(800) 444-3353
www.harborfreight.com

Dawn Power Dissolver
www.dawn-dish.com

Evapo-Rust
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For the serious electric flier: setting up your battery test facility

You have finally taken the leap. You sold all of your glow/gas motors and support equipment, and converted what glow/gas-powered models you have to electric. It is time to get serious about supporting your electric-powered models and spend some of the savings you are getting on fuel and paper towels.

Attempt to establish a separate area in your shop for your battery equipment. Chargers, battery packs, and associated equipment don't mix well with balsa chips, dust, tools, metal debris, glue, solvents, etc. Maybe mine is overkill, but it will give you an idea of what I am writing about.

Chargers

There are plenty of choices. Most manufacturers have apparently settled on the four-button configuration. One thing that can be said is that balancing capability is a must to ensure maximum life from your LiPos.

Multi-chemistry chargers are a good idea if you are still using Ni-Cds or NiMhs. I find multi-chemistry chargers useful when charging my cordless tools, some of which were converted to charge LiPos because the original packs bit the dust.

Are multi-port chargers a better choice than single-output chargers?

Although I have some multi-port chargers, I favor using several single-output units because failure won't put me out of business. It is a shame that the Cellpro 4S is no longer in production because three or four of them cost less than most multi-port units. The Cellpro Multi-4, although more complex, is an option.

Battery testing facility.

Wattmeter

Second only to chargers, a wattmeter is a must for any electric flier to determine the amount of power his or her setup is drawing. There are a number of them available that all essentially do the same thing—giving you voltage, current, watts, and amp/hour readouts. Be on the lookout for the discontinued Medusa Pro that allows you to plot the readings on your computer.

Wattmeters.

Astroflight 101 Super Wattmeter

No longer available

Computer

Although it might be considered a luxury, there are a number of charger systems that connect to your computer for establishing charge regimes or to record what is happening in the charge/discharge of your battery. A laptop offers more flexibility, but nearly any computer will work.

A computer is mandatory if you want to use some discharge devices such as the CBA Battery Analyzer. A computer also allows you to take advantage of the capabilities of some of the more advanced chargers such as the Cellpro Power Lab 6 or 8.

Discharge Capability

Some chargers have discharge capability, but rarely in the range that your batteries actually reach. Although I have found that the CBA Analyzer is a great unit, it is somewhat limited in the amount of load it can simulate.

It's useful in establishing a baseline performance for packs because you can lay one discharge over another to visually track performance deterioration over time. It also requires a computer.

Test Stand

It is important to be able to test your batteries, especially in an environment as close to the one that you will see in your application. This is easy to achieve. A simple motor test stand created from a piece of pine to hold the motor and ESC will work. It can be made to accept

your motor-mounting method and then clamped in a vice or to the end of your workbench for testing. You should have a wattmeter and servo tester to complete the setup.

It is possible to use your receiver if you don't have a servo tester but the setup gets more involved. Servo testers are fairly inexpensive—anywhere from $5 to $50; however, you can make your own.

This is a good way to test various propeller loads. Remember that a spinning propeller can be as deadly on the bench as it can be on your model.

It is a good idea to set up the motor and propeller so that it doesn't blow away whatever project you may have on your workbench.

Motor test stand.

Servo testers.

Power Supply

Because many chargers operate from only a 12-volt source, a good power supply wired to multiple banana jack outputs adds a lot to your capability. I have found that the Pyramid line of power supplies works nicely. Something in the 25- to 40-amp range can handle multiple chargers. You don't need one with meters, but I like to see what they are doing.

Instrumentation

Instrumentation is mandatory in anyone's shop. Digital multi-meters are available from Harbor Freight for less than $5. More complex units featuring computer interface for recording readings also are available from electronics shops such as Radio Shack.

Power supply.

Correction

In my November 2012 column, I made an error in stating that the storage voltage for LiPos was 3.6 volts per cell. It should have read 3.8 to 3.9 volts per cell.

Although the "Battery Clinic" column is published quarterly, there is no reason to keep your battery problems and ideas to yourself. Please share them.

Don't have an email connection? Then drop me a note at the address listed in "Sources." Include a self-addressed stamped envelope if you want a personal answer.

SOURCES:

Simple Servo Tester
www.gadgetgangster.com

Harbor Freight
(800) 423-2567
www.harborfreight.com

West Mountain Radio
(262) 522-6503
www.westmountainradio.com

FMA Direct
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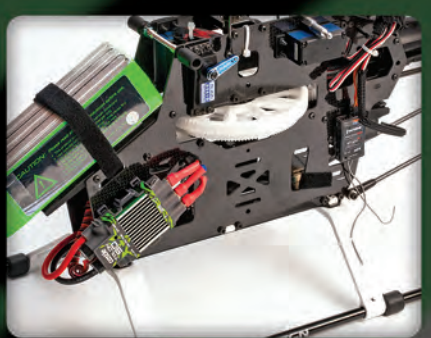

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Fond memories of Joe Wagner's original FF design bring inspiration

Joe Wagner's original Dakota was designed in 1950 and intended for 1/2A power. Randy Wrisley remembered as a child helping his father crank the inverted Atwood .049 that powered it.

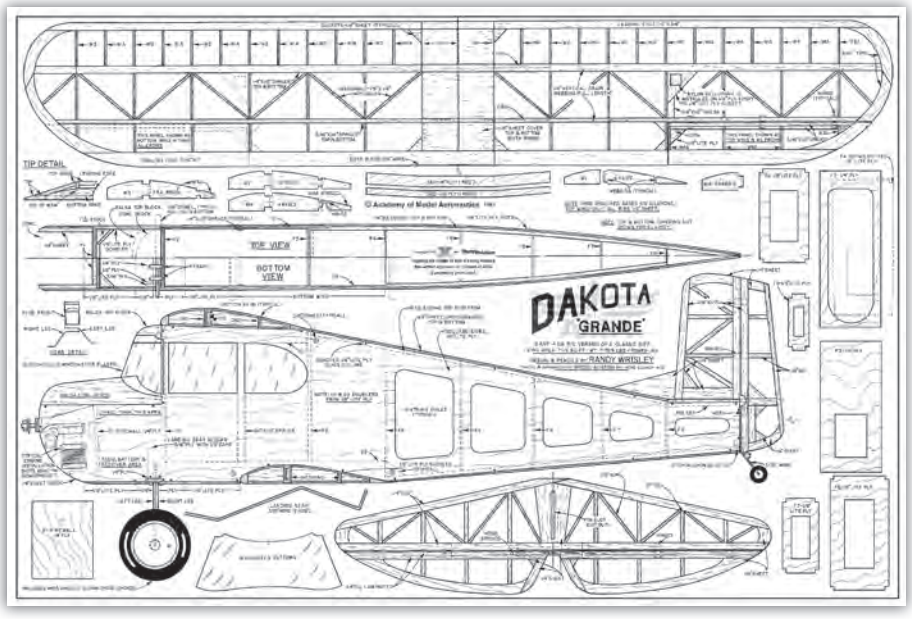
As an adult, Randy built an RC version of Clarence Haught's 25%-enlarged Dakota, converting back to the original inverted engine mount he remembered so well. He decided to build a Giant Scale version, 2 1/2 times larger than what Joe originally designed, and call it Dakota Grande.

Weighing 7 3/4 pounds dry, the aircraft had a 7 1/2-square-foot wing area and was "overpowered," according to Randy, by a Fox Eagle .60. The fuselage was made from light plywood, while the wings and tail were of conventional construction from balsa, spruce, and plywood. Randy stayed with an inverted engine to preserve the character of the airplane's nose.

Twenty main ribs were cut from a template; six center-section ribs, four tip ribs, and 24 false ribs were also cut. Ailerons were built for the top wings only, so the aircraft would bank in a scalelike manner. The landing gear was 3/16 plywood, the legs were 3/16-inch music wire, and the tail wheel gear was 3/32-inch music wire.

Randy didn't epoxy the wings' hold-down dowels until after he covered them, and he installed the windows and windshield after he no longer needed to reach through the holes. A Williams Brothers Model Products 3-inch pilot added realism to the Dakota Grande.

As for flying, Randy said that no words could describe the feeling of a test flight of such magnitude with the Dakota Grande, and that the fly-by was its forte. "If your idea of fun is flying around at 1/3 throttle, making low fly-bys down the runway, and wheel landings at sunset, this is your airplane."



Dakota Grande was featured in the November 1981 *MA* as AMA Plans Service listing 351 and is available for $19 plus shipping and handling. AMA members can access the magazine's digital library on the *MA* website to read more about it. See page 153 or go to www.modelaircraft.org/plans.aspx for ordering information.

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Revisiting completed models

by Sal Calvagna
rcgiants@optonline.net

The Hanriot HD-1 as seen from the rear.

This shows the detail in the cockpit area of the Hanriot HD-1.

Wolfram Donalies' Polikarpov I-16 sports a new set of gear doors. This addition was not a small feat considering the complexities of the gear.

Welcome back. In this month's column I'll revisit a few previously featured models and another that has just been completed.

New column guidelines are in place and the number of photos dictates the length of the text, so I must be brief. Enjoy!

Walt Moucha's 1/3-Scale Hanriot HD-1

In the June 2012 "RC Giants" column, a 1/3-scale Hanriot HD-1, designed and built by Walt Moucha of Port Saint Lucie, Florida, was featured in its framed-up condition. Since then, he has completed the model and it took first place at the Top of the World event in Ocala, Florida.

The model was covered with Solartex and painted with latex paint purchased at Michaels craft store. The all-up weight is 32 pounds using a Sachs 4.2 gas engine swinging a 22 x 10 propeller. The kit is available from Lasercut USA in Port Saint Lucie and Walt has the cowl, gear, cabanes, and everything else needed to complete the model. You can call or email Walt at the contact information listed in "Sources."

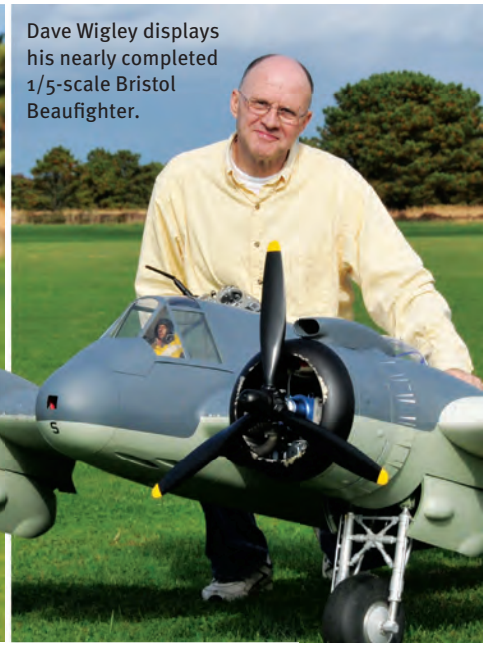
An interesting fact is that this French-designed airplane was rejected by the French Air Service, but it was supplied to Belgium and Italy where it proved successful.

Polikarpov I-16 by Wolfram Donalies

Wolfram Donalies' Polikarpov I-16 was first featured in the December 2011 column. Since then he has added some detail to the I-16, including scale landing gear doors. According to Wolfram, these were quite a project!

The I-16 landing gear has three strut

The Beaufighter has its flaps down on its first landing approach.



Dave Wigley displays his nearly completed 1/5-scale Bristol Beaufighter.

covers and the wheel cover is hinged in half with the lower half closing as the gear is retracted.

In addition to the gear, Wolfram added a gun sight, pitot tube, antenna mast, and some weathering.

One of the photos is a great one of the I-16 on takeoff. Wolfram hails from Elgin, Illinois, and is a member of the Tri Village RC Club.

Jim Gobetz's 1/4-Scale Fokker D.VIII

Jim Gobetz of Mt. Sinai, New York, is proud of his freshly completed 1/4-scale Fokker D.VIII built from a Balsa USA kit. The model spans 82 inches with a 59-inch fuselage. It has 1,100 square inches of wing area, which gives the model 25 to 29 ounces of wing loading at a weight of 12 to 14 pounds.

Jim covered the model with two variations of Solartex—olive drab and a lozenge pattern—available from Balsa USA. The model is powered by a Zenoah G-23 gas engine. Nice job, Jim.

Originally designated as the Fokker E.V, the parasol monoplane, designed by Reinhold Platz (who designed the highly successful Fokker D.VII), was a fighter in late World War I and had several fatal accidents because of wing failures.

Jim Gobetz shows off his recently completed Fokker D.VIII.

With only a couple of months remaining until the end of the war, the wing was modified and it was given the new designation of Fokker D.VIII. Too little and too late to make any difference to the outcome of the conflict, it was credited with the last aerial victory of the war.

Dave Wigley's 1/5-scale Bristol Beaufighter

In the June 2012 column, three-time Top Gun winner Dave Wigley, of Smithtown, New York, was featured with his latest ongoing project, a 1/5-scale Bristol Beaufighter.

The model spans 138 inches, has a length of 96 inches, and is powered by two counter-rotating BME 102 twin-cylinder gas engines.

Dave designed and built every part of this model. Some additional markings and weathering are all that is left to complete. If all goes well, Dave will fly the model at Top Gun 2013.

The Bristol Beaufighter was an upgrade of the earlier Beaufort torpedo bomber and saw great success during World War II.

That's all for February; see you in April.

SOURCES:

Lasercut USA
(772) 528-4727
www.lasercutusa.com/index.html

Walt Moucha
(772) 460-6436
waltmoucha@yahoo.com

International Miniature Aircraft Association
www.fly-imaa.org

hobbico-efest.com

New modelers at the Scale Nats

by Stan Alexander
onawing4602@att.net

Some of the best times I've had at the Nats, as well as other contests, have been watching teams of modelers work together. Often, I see good friends competing against each other and helping each other out. Sometimes it is a husband and wife team.

One of the special bonds one might witness is a father and son working together with their models and enjoying being there with each other.

At the 2012 Nats, I had the opportunity to witness a new competitor, Evan Gaston, with his father, Dan Gaston. Both competed in Fun Scale—Evan in Novice and his dad in Open Fun Scale. Evan's General Aircraft Skyfarer made all four flights during the competition. He performed all of the maneuvers with the light civil aircraft and always landed on the runway.

Evan and Dan drove from Norwalk, Ohio. Evan's mom couldn't attend this year, but I'm sure she'll be there to cheer her team on at next year's Nats.

Evan is 9 years old and told his father after the last flight, "Dad, I can't feel my feet. I feel like I'm floating." At the awards ceremony, the flight judges presented Evan with a National Association of Scale Aeromodelers (NASA) Flight Achievement Award for the 2012 Nats.

Evan and his dad went home with a Hangar 9 1/4-scale de Havilland Tiger Moth. Way to go! I hope to see you both for many years.

Evan Gaston, his father, Dan, and event director, Jim Martin, pose with the NASA Flight Achievement Award and Evan's new Hangar 9 de Havilland Tiger Moth.

Evan Gaston's General Aircraft Skyfarer was entered in Fun Scale Novice and placed second overall. The electric-powered Skyfarer is scratch-built.

Warbirds Over the Rockies

It's a new year, and some new ideas (as well as some old ones) make sense when it comes to Scale modeling. We now have so many choices!

Last fall, I went to an event that has been held for approximately eight years, Warbirds Over the Rockies. It's a show/fly-in for warbirds and modelers. The annual event is held between Denver and Fort Collins, Colorado.

For the first time, I saw more P-47 Thunderbolts than P-51 Mustangs—anything from foamies to a 1/3-scale with a wingspan of 140 inches and a 420cc engine. It looked great and flew much like the full-scale aircraft.

If you've never been to a warbird fly-in, you should attend one.

Pietenpol Air Camper

During the fuselage construction, I added a few braces to the 1/4-inch sticks along the stringers from the back (main) cockpit back toward the model's tail. These will strengthen the fuselage without adding much weight.

Even if you have an ARF, finding ways and areas to strengthen the model without adding weight is a plus, especially on the inside of the canopies, which may appear (in my experience) to be flimsy or brittle. Adding a few triangle pieces

Below: This gives you an idea of how simple it is to change out the axles for Robart gear. Cut the brass tube to 1.75-inches long and add this to the inside of the wheel hub. It's a good fit and makes the tires or wheels useable.

Another father-and-son team: Dale and Jeremy Arvin. Dale built this Yellow Aircraft SNJ, which Jeremy flies for him. They've won many Team Scale events with this model.

to joints can make an airplane more durable.

The Robart J-3 Cub gear works great for this 1/4-scale model, but changing the wheels/tires for something other than what the gear was designed for can change the setup. The provided axles were too short to handle the 1/4-scale Old-Timer tires and wheels, so I finally found a couple of 3/16-inch socket-head bolts in my shop, which I'm substituting for the axles. They don't fit the wheels and have destructive threads that can damage the wheel center when used.

I purchased a 9/32-inch, 1-foot-long brass tube to go over the axle and inside the wheel. This will allow the wheel to roll without damaging the hub. I also had to grind the bolt threads off so they would fit inside the Robart sleeve on the gear.

Next, the gear will be disassembled and painted black. It has already been primed.

I'm excited about the model because I'm close to adding the fun details.

Upcoming Events

The One Eighth Air Force Spring

Scale Fly-In is scheduled for March 23-24. This gathering of Scale modelers in the Southwest takes place near Mesa, Arizona. It's a good time to fly Scale models and enjoy the company of other like-minded individuals.

There's no pressure, and all who attend typically have a great time. Check out the dates on the One Eighth Air Force website to make sure they don't change!

The Weak Signals R/C Expo Show will be held in Toledo, Ohio, this year on April 5-7. It is always a fun time with some great deals on items that modelers like. If you haven't been, you should go. The busiest day is on Friday, which has some of the best deals!

The 24th Top Gun Invitational will be held May 1-5, in Lakeland, Florida, at Paradise Field. Frank Tiano has some special events planned for this year's contest and show.

The Scale Nats will be in Muncie, Indiana, July 12-14. The 2012 Nats was great and prizes were awarded in every class. The turnout was good and it appeared that the sport attracted some new modelers. I hope to see you all this year.

Competition, good food, fellowship, and Scale models, as well as a great flying site—come join the fun!

SOURCES:

Warbirds Over the Rockies
www.warbirdsovertherockies.com

Weak Signals Toledo R/C Expo
www.toledoshow.com

One Eighth Air Force Spring Fly-In
www.oeaf.org/smf/index.php

Top Gun Invitational
www.franktiano.com/TopGunFrameset.htm

NASA
www.nasascale.org

AMA Nats
www.modelaircraft.org/events/nats.aspx

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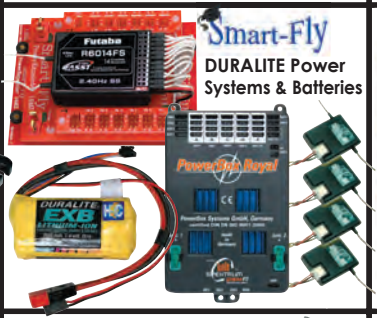

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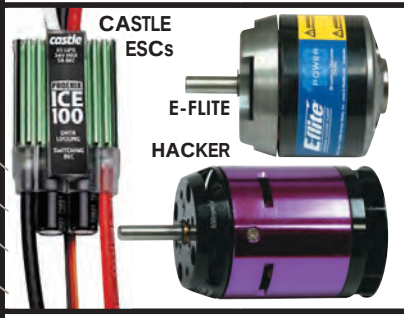

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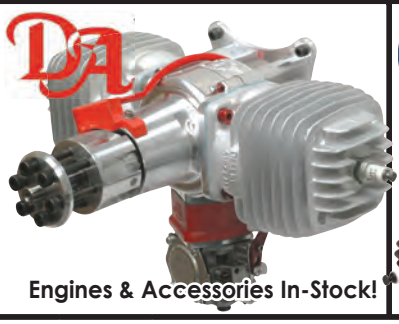

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Joe Chovan reports on Soar Utah 2012

by Dave Garwood
Dave.Garwood.518@gmail.com

Sam Cook and Russ Bowman, both from British Columbia, fly their Habicht Vintage Gliders in formation.

Soar Utah has become a premier event in the Slope Soaring event lineup because of the wonderful topography, weather that usually cooperates, and the outstanding hospitality of the sponsoring flying club.

Traveling writer and photographer, Joe Chovan, from North Syracuse, New York, filed this event report.

Soar Utah

Everything flies at Soar Utah. I've attended this event since 1995, and each time I have looked forward to seeing a great diversity of aircraft and flying styles.

The Intermountain Silent Flyers (IMSF) club has been hosting Soar Utah during Labor Day weekend biennially since 1996. The group always manages to make participants feel welcome.

Although they can't control the weather, the beautiful and exciting locations and friendly folks make it an irresistible attraction for me and it remains a highlight of my vacation road trips.

In recent years, Slope Soaring participants have shared in a community that corresponds daily through forums such as the popular online Slope forum in RCGroups. It's great to meet and fly at one of the world's best venues for Slope Soaring with those you've known online.

This year, we met August 30 through September 3, and were treated to some fine Soaring at an enjoyable and memorable gathering.

There are several flying sites in the Salt Lake City area that offer Slope Soaring opportunities. The main site, known as Point of the Mountain (POTM), is a huge sandbar from the ancient Lake Bonneville several hundred feet above the valley floor, and offers both north wind- and south wind-facing slopes.

The wind typically blows from the south at daybreak and reverses midday, so fliers switch sides when the wind turns. The switch can happen abruptly, within 10 minutes or less, although there have been situations in which fliers on both sides of POTM have reported lift simultaneously during the shift.

For Dynamic Soaring (DS) junkies, the north side of POTM offers the famed "widow-maker" hill, which has roughly 45° faces and rises an additional 400 feet above the northern flight park. This hill must be hiked, so it helps to be in good physical condition and prepared with sunscreen, water, etc. before trekking up this legendary motorcycle hill-climb challenge.

Eagle Mountain is a popular DS spot with the local fliers, and is a short drive from POTM. Landing can be challenging, so foam airplanes are preferred.

Antelope Island lies in Great Salt Lake, slightly north of Salt Lake City, and can be reached by the 7-mile causeway. The island offers flyable slopes including Buffalo Point, which has sweeping panoramic views. These southwest- and northeast-facing slopes are accessed via short hikes from the Buffalo Point parking lot.

Francis Peak has traditionally also been a flying attraction. More than

Larry Bennington of Eden UT flies his DG-800S. Larry won the Modern Sailplane category with this aircraft.

10,000 feet tall, the mountain ridge has a commanding view of Antelope Island. The view—and often great daily Alpine Soaring—make it a must-see and must-fly venue if time and conditions allow.

In addition to Slope flying, the Grantsville Salt Flats is the location of the thermal Aero-Tow event.

Soar Utah is among the least competitive of all of the RC Slope Soaring events. Although there are planned race demonstrations and a static display competition, the atmosphere is one of casual flying. The flying spaces are so large that it is easy to keep airplanes separated, and with a little common sense and courtesy, midair collisions are rare.

Participants tend to arrive a few days before the start of the event to maximize flying opportunities in unpredictable weather conditions. Event information, including detailed flying site access and hotel discount rates procured by the IMSF, is posted within the RCGroups Soar Utah event online discussion thread. Participants are encouraged to camp on the south-facing side of POTM, which also serves as a flight park for paraglider and hang-glider pilots.

Thursday evening kicks off the festivities with a planned welcome social at POTM. Friday offers a dual site opportunity with open Slope flying at POTM all day and aerotowing at the Grantsville salt flats. Saturday and Sunday offer open flying, an exposition F3F race, and static-display judging for the craftsmanship awards.

Monday (Labor Day) offers possible excursions to other sites and serves as a travel day for some.

As wind and weather conditions changed, IMSF club members offered to lead interested parties to various locations. Site access and meeting coordination details were posted daily on the RCGroups event thread.

Andy Gregory from Calgary, Alberta, launches his Spider 60.

Thomas Rauber of Black Creek, British Columbia, flies his Tragi 801 X.

Ted Fraughton's Aerotow Report

The Bonneville Salt Flats qualify as the fastest playground in the world, for man or machine. The miles of dry, open lake extend through much of the west desert outside of Salt Lake City. This prize real estate plays host to a number of adrenaline junkies, including those who anxiously anticipate Soar Utah and Speed Week each September.

After the winter storms fade each year, and the warmth of a desert summer claims the dry lake bed, we fly on a runway that nature annually resurfaces. It is a surface formed throughout centuries, even millennia. It is approximately 150 yards wide by 350 yards long, and attracted many participants for the aerotow event on Friday, August 31.

Chris Hahn and Wid Tolman coordinated this successful event. This location was chosen because an airplane could safely land on it when traveling in nearly any direction.

The tugs consisted of a Pegasus operated by Tom Hoopes, a Pilatus Porter owned by Mike Gibson, a 1/3-scale World Models Super Cub flown by Paul Bradshaw, and Ron Mendel showed his recently completed, scratch-built Feiseler Storch. These expert tug pilots provided aerotowing services for gliders with wingspans up to 7 meters, and they inspired a level of confidence that kept them busy towing all day.

The IMSF hosts several of these aerotow events throughout the summer,

so check the schedule for details.

It appeared that no amount of flying was enough, and the day concluded at the point of the mountain with good conversation and light refreshments. As the western horizon swallowed the last rays of sun, some pilots flew into dusk and beyond.

Canadian Invasion

Sam Cook, Russ Bowman, and Thomas Rauber, led a troop of fliers from British Columbia to Soar Utah. It's great to see the pilots from British Columbia arrive at any slope in their van packed with beautiful airplanes, often with tales of Slope adventures along the way. These pilots love to fly Slope, and do so with skill and gusto to match any opportunity.

This trip, Sam and Russ flew their brand-new Habicht vintage gliders in formation. Despite rain on the maiden flights, it was a pleasure to see.

Sam's 1:3.75-scale Moswey 4 is a full fiberglass-molded version of the fabric-covered original and features authentic surface detail as well as a custom water-ballast system. Seeing this baby carve up the Utah skies was a treat for me.

Sunday, the trio performed memorable aerobatic stunts with their F3F-style sailplanes. Seeing the grace, and hearing the "whoosh" of these clean, sleek birds as they streak by inspires one to seek the slope siren's song like nothing else.

The F3F race was scheduled and postponed several times Saturday because of changing conditions, but we were eventually able to hold a couple of rounds for an exhibition race on the south side of POTM overlooking the gravel "bowl."

Top times were posted by Bobby Brown of Sandy, Utah; Frank Slaughter of Teton Village, Wyoming; and Russ Bowman of Victoria, British Columbia. This was a great chance for pilots with little F3F experience to try a manned course with timers, judges, and a working sound system to signal pylon crossings.

Conditions were favorable for the first round, but then the waning wind switched abruptly from south to north to end my last heat, and this halted Saturday's flying on the south side.

The wind changed from roughly 5 mph south to 20 mph north in a matter of minutes, and we scrambled to pack up and head north as wing covers, hats, cooler lids, and light airplanes tried to blow down the hill. That was exciting!

The static competition was held Saturday. The sailplanes were inspiring works of art showing ingenuity and craftsmanship.

Larry Bennington of Eden, Utah, earned first place in the Modern Scale Sailplane class for his DG-800S. Larry's sailplane has full-cockpit detail and working spoilers.

Sam Cook of Alert Bay, British Columbia, won the Vintage category with his Moswey 4. Phil Herrington of Boulder, Colorado, earned first place in the Power Scale Soaring (PSS) category with his Lockheed P-38 Lightning. Phil scratch-built this 108-inch wingspan, 19-pound sailplane and the detailing is immaculate.

It's always difficult to leave an event such as Soar Utah. Knowing we can stay in touch online helps ease the departure, but as Ted Fraughton observed, when such opportunities present themselves it seems no amount of flying can really be enough. With this in mind, I look forward to Soar Utah 2014.

Thierry Juliard of Calgary, Alberta, launches his Jaro Muller Espada-R.

Sam Cook of Alert Bay, British Columbia, flies his Moswey 4, which took first place in the Vintage Sailplane category.

SOURCES:

Soar Utah
http://soarutah.org

RCGroups
www.rcgroups.com

League of Silent Flight
www.silentflight.org

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Piroette flips: why all the hype?

by Mark Fadely
MDKJA@aol.com

I want to revisit a popular maneuver this month. It appears that many pilots want to learn how to do a piroette flip. I can't tell you how many times I have been asked, "How do you do a piro flip?"

The proper name of the trick is pirouetting flip. Most RC aerobatic helicopters are capable of performing the maneuver. It does not require an aircraft with a lot of power or aggressive capabilities.

However, this maneuver tops the list of discussions about heli moves. A picture is worth a thousand words, so I included a visual representation of the maneuver with corresponding stick movements for you to review.

Kyle Dahl is another top pilot with a refined piro-flip technique. He is a past winner of both the 3D Masters and the Extreme Flight Championships.

The simulator was fired up and stick stirring ensued. As with many complicated maneuvers, piro flips seem easy once you have them mastered. However, they appear nearly impossible during the early learning stages.

I recommend getting a simulator and practicing this complicated move until your thumbs are numb. There is no substitute for practice.

The piro flip is like no other maneuver and involves a sophisticated control-input sequence. Often, a pilot begins doing piro flips by using timing and a basic knowledge of the required stick inputs.

This is a dangerous way to try the trick on a real aircraft. It is risky because if your timing is slightly off, the heli may end up in an attitude foreign to the pilot and crash.

As with all maneuvers, the pirouetting flip can be broken down into segments that can be learned as small parts of the full maneuver. The basic control inputs on a Mode 2 transmitter are to stir the right (cyclic) stick while the left stick (rudder) is deflected and held to perform a constant yaw rotation.

While these control inputs are being executed, the helicopter will flip while the tail is spinning. The pilot then needs to coordinate the positive and negative collective to maintain a constant

World helicopter champion Hiroki Ito shows off JR's new three-blade 3-D helicopter. The aircraft was caught in a low piro flip in this shot.

Gary Wright walks out to the flightline at the 2012 International Radio Controlled Helicopter Association (IRCHA) Jamboree. He was the first person to do beautiful, symmetrical pirouetting loops, which are a variant of a piro flip.

Two friends from France put on an impromptu piro-flipping exhibition one evening at the 2012 IRCHA Jamboree.

altitude. The rotation of the cyclic stick has to match up with the rotation of the heli at all times or the maneuver will go awry.

The synchronization of the cyclic is the most difficult thing for pilots to master. They usually ask, "Should I watch the nose or the tail to stay in sync?" It doesn't matter which end of the heli you key in on, as long as you remain consistent. As soon as you input a few wrong stick positions, the helicopter heads out of control in a hurry.

The picture from my simulator shows the limited amount of stick input throughout the maneuver. That is a surprise to most pilots.

When you watch a piro flip being performed, it seems as though plenty of control is required. However, the opposite is true.

The images of the heli in the illustration have been spread out so that you can better see the orientations.

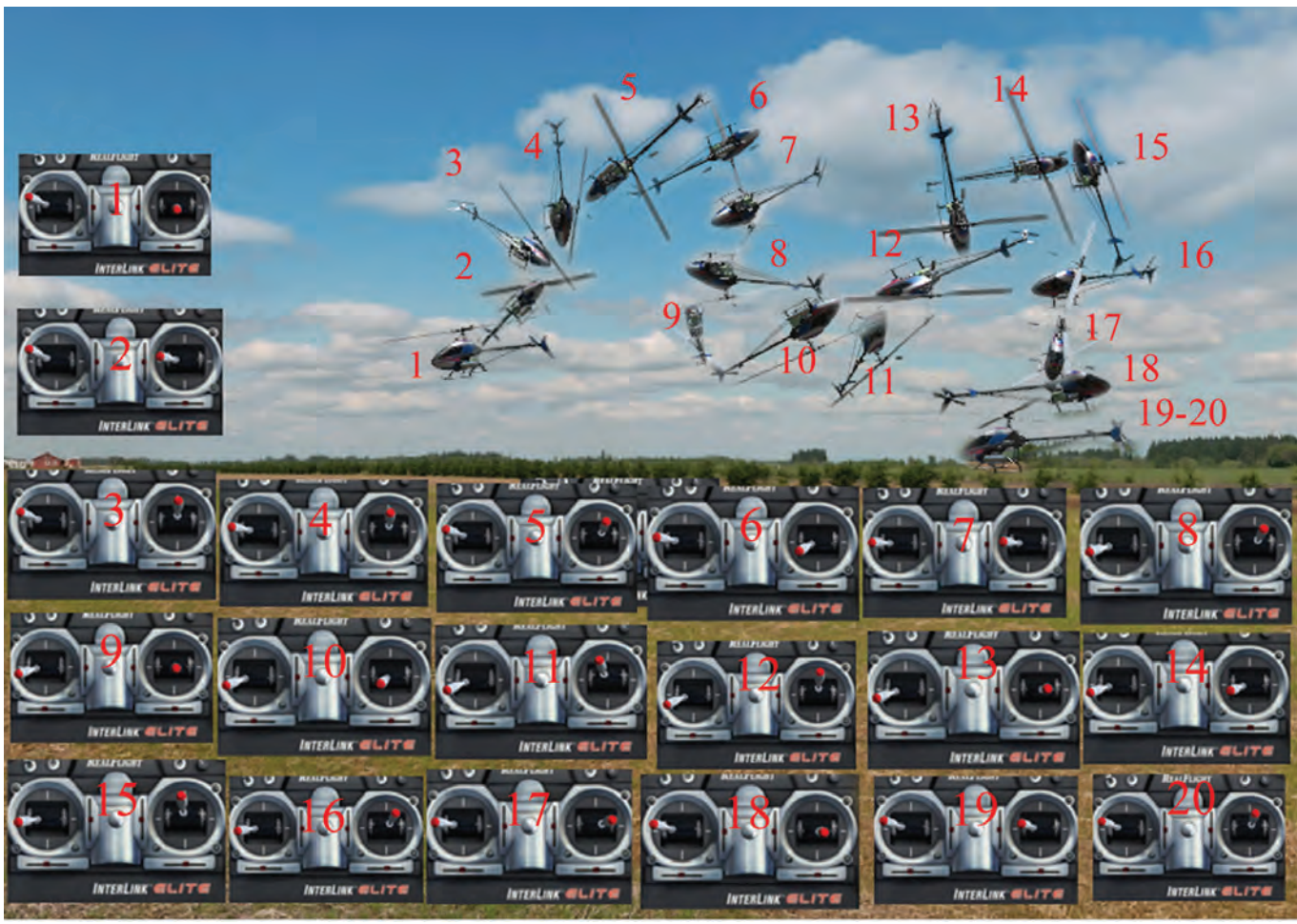
In a real-world example of the maneuver, the helicopter should stay in the same space and perform the flip around itself with no altitude or horizontal position changes. The pirouetting flip in the picture is a two-piro version. That means there is one pirouette during the first half flip, and then another full pirouette during the second half flip. The heli then ends up in the same orientation as it started.

When I first learned the trick, I did the single-piro type, which has only one pirouette for the entire flip. The single-piro requires more cyclic input and the load is much higher on the motor and helicopter. The two- or three-piro-per-flip versions are more elegant and pretty to watch.

So, it's time to take your favorite aircraft out and start doing some piro flips, right? No. You must be cautious when attempting these for the first time. Although you may feel confident on the simulator, I guarantee you will be nervous when you try these difficult maneuvers with your helicopter.

Make sure to go high—at least three mistakes high—and then start gently working your way into the piro flip. It

This diagram is taken from a simulator screen shot. The simulator is the best way to prepare to take on a maneuver as difficult as the piro flip.

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Alan Szabo is one of the world leaders in piro flips. He began performing the on-the-deck version of the maneuver at the IRCHA Jamboree nearly a decade ago.

may get frustrating and feel as though you are not progressing. Take breaks to give your mind a rest, too. That is very important. Doing a maneuver such as this will be a mental workout the first few times. As always, be safe.

I hope the illustration will help some of you better understand the nuances of this difficult and exciting maneuver. Remember, don't be afraid to ask other pilots for help when you are attempting to learn something new.

That is it for this month. I hope you return to read more about RC helicopters next month.

SOURCES:

IRCHA
www.ircha.org

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Veteran pilots will be impressed by how well engineered this ARF is, which makes it very durable and capable of a wide range of aerobatics. The flybarless head and pre-programmed Ace GT5.1 3-axis gyro are performance pluses. Factor in the affordable price, and you have the Mini Titan E325 Sport... one of the most incredible values there is in a 450-size heli.

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Flying cross-box maneuvers

by John Glezellis
jglezellis@comcast.net

The 50cc Yak 55M from Goldwing RC is a great performer and is perfect for the entry-level classes found in IMAC competition.

If you have been an avid reader of my columns, you are aware that I like to explore subjects that pertain to both expert and beginner pilots. After all, guidance is needed when you are first starting out in the competition scene, and experience pays off!

I want to spend some time going over a topic that I have not yet covered in its entirety, and that is the cross-box elements that are commonly found in the more advanced International Miniature Aerobatic Club (IMAC) schedules.

Traditionally, maneuvers are flown on the X and Y (horizontal and vertical) axes. However, a cross-box maneuver is one that is flown on the Z-axis, which is either going away from, or coming toward, the pilot.

After reviewing the first three IMAC classes, I found maneuvers five, six, and 10 of the 2013 Intermediate schedule interesting, because they would tie perfectly into my discussion about cross-box maneuvers, especially since two of these maneuvers are flown back-to-back. Careful planning is needed so the figures will be flown to the best of the pilot's ability for the clearest possible presentation.

Over the course of this column, I will discuss some flight techniques that will assist you in these maneuvers and examine some judging criteria that pertain to these figures. Without further delay, let's begin!

A Perfect Cross-Box Combo

Although three cross-box maneuvers exist in the 2013 Intermediate program, the first two (the fifth and sixth maneuvers) are the most challenging, because one exits cross-box and the other begins immediately after. I will break these two maneuvers down and describe each one. Then, I will cover a few flight tips to decrease your workload.

The fifth maneuver from the 2013 Intermediate program is a 1 1/4 positive spin followed by a half roll in the same direction as the spin. This maneuver starts parallel to the runway. After the airplane stalls and the direction of the rotation is chosen by a wingtip dropping during the stall, the pilot must perform 1 1/4 positive spin rotations.

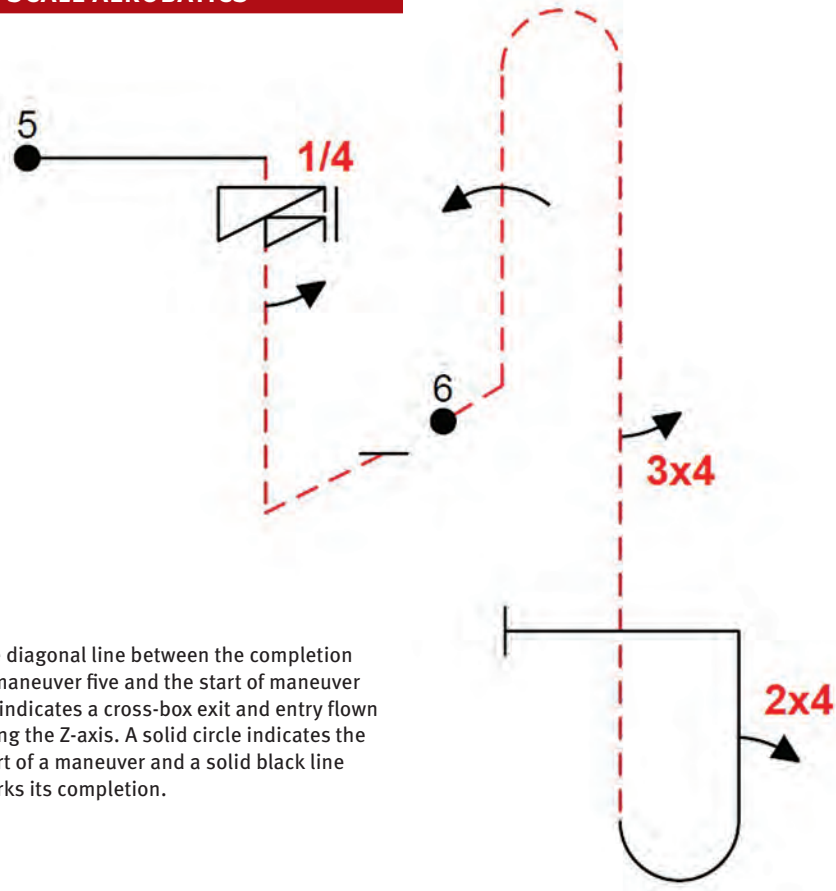
After the rotation is complete, a brief line segment should be shown and then the pilot immediately executes a half roll. Then another line segment, longer than the one performed earlier, is performed before pushing to an inverted cross-box exit.

It is important to be precise in the spin rotation and the half roll so that when pushing to exit the maneuver, the aircraft is perpendicular to the runway and traveling either away or toward the pilot.

Per the rule book, the end of a figure is shown when horizontal flight that is equivalent to one fuselage airplane length is completed. After this point, the next figure will commence. If a line segment is not shown to differentiate between one maneuver and the next, one-point-per-figure deduction must be applied by all judges.

If you are using dual and/or triple rates, you will likely need to switch rates between the spin and the Humpty Bumps. It is important to have enough control surface deflection to spin and snap the aircraft on one rate, and have the aircraft be extremely precise on another for maneuvers such as the Humpty Bump.

Next the pilot must execute two variations of the popular Humpty Bump. Begin by pushing to a vertical up-line and performing a full roll. Then push a half outside loop and perform three



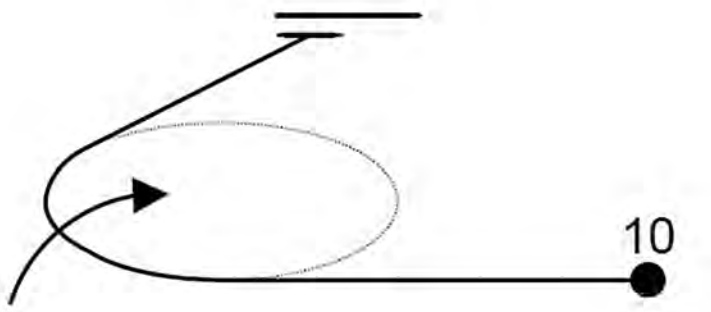
The diagonal line between the completion of maneuver five and the start of maneuver six indicates a cross-box exit and entry flown along the Z-axis. A solid circle indicates the start of a maneuver and a solid black line marks its completion.

points of a four-point roll down. Pull half of an inside loop to a vertical up-line and perform two points of a four-point roll, which must be flown at a constant roll rate, with the roll centered on the vertical up-line. Finally, push to an upright exit so that the airplane is again flying parallel to the runway.

The key to this maneuver is planning ahead and anticipating its spin rotation so that the Humpty Bumps will not appear "rushed." In the event that a strong crosswind exists, the pilot must quickly react.

Suppose that there is a strong crosswind blowing in. If the pilot exits the spin coming toward him or herself, he or she must almost immediately go into the next maneuver. Wind correcting is a must so the airplane will not drift, and the radii of the loops must be well planned so the airplane will exit the maneuver at the proper distance from the pilot.

For all of these figures, the radii of



This depicts a 90° rolling circle with a roll to the inside. Note the cross-box exit, which is indicated by a diagonal line since this maneuver is only flown on the X and Z axes.

the first and last partial loop must also be equal; however, the half loop in the middle of the figure can be of a different radius.

It is important to note that size is important. Despite the fact that a pilot can perform a small radius to the vertical portion of the Humpty Bump, if a judge feels that the radius is too sharp, a downgrade may ensue.

Remember that the radius after the half outside loop must match, but in this case, you will need to immediately continue that radius into another Humpty Bump variation.

The Roller

Maneuver 10 is a 90° rolling turn with one roll to the inside. Although it starts in a manner that is parallel to the runway, the airplane will exit cross-box. The roll is integrated, which means that a constant roll rate exists throughout the turn.

A judge will look at the entry and exit altitude as well as the cardinal points. In this case, the airplane must start the maneuver upright along the X-axis, and exit upright along the Z-axis. Points will be taken off with roll-rate variation, a rate change in the turn, or similar variances.

I recommend that this maneuver always be flown so that it is completed while traveling away from the pilot. This is beneficial so the pilot will have time to complete the maneuver, show that the airplane has traveled one full fuselage length to mark the end of the maneuver, and turn away and prepare for landing.

Depending on the direction that the sequence is flown, the pilot will need to be proficient rolling to both the left and right.

Pilots naturally tend to prefer to roll to one direction. Although this is acceptable for the average pilot, it isn't for the competition pilot.

Final Thoughts

To the aerobatic newcomer, cross-box figures may be challenging at first. The perspective of the aircraft may be rather strange compared to traditional X- and Y-axis flight. Additionally, these maneuvers can become difficult to fly depending on the severity of the wind during the flight.

As discussed, some maneuvers are flown back-to-back while being flown cross-box. Careful, strategic planning results in the highest mark. For these reasons, it is extremely important to practice in all weather conditions. After all, you don't know what will happen on the competition day!

Until next time, fly hard!

SOURCES:

Goldwing RC
sales1@gwplane.com
www.goldwingrc.com

IMAC
www.mini-iac.com

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Competition models updated

by Louis Joyner
joyner28@comcast.net

Designed in the mid-1950s by the late Larry Connover, the Lucky Lindy is becoming a popular choice for Nostalgia Gas. Because rules permit scaling, the original 511-square-inch Lindy, designed for FAI Power, can be scaled up and down for other categories.

At the 2012 Nats, flying buddies Larry Davidson and Bob Sowder were using the Lucky Lindy design in a variety of sizes. "I have built them for all NOS events from 1/4A to C," says Bob.

In C Nostalgia, both Larry and Bob maxed out. The flyoff went on for a dozen rounds with both of the Lucky Lindys making the 2-minute max with the 6-second engine run. "We were deliberately trying to pick bad air to end this thing," says Bob. "It was the most fun I've had in modeling." It finally ended with Larry first and Bob second.

For Larry, the Lucky Lindy is a switch from the British Dixielander design he has flown for the last few years. "Bob talked me into it," he says. "I'm flying O.S. Max .15, .29, and .35 engines reworked by Bob Mattes. The CG is at 65% with 2° of decalage and about 2° of left thrust."

Sowder states that the center-mounted rudder is extremely sensitive to adjustment. "Build the right and left stabilizer-mounted rudders flat with no tabs," he says. "Trimming the Lindy is not much different from most other low-thrustline Nostalgia ships; I think some fliers are spooked by the three rudders and shouldn't be."

For B and C Nostalgia, Bob flies the 750-square-inch Lindy. For B he uses a Johnson .29 Combat Special, then switches to a .35 O.S. Max for C. To meet the weight required by the rules, he adds 4 ounces of ballast to a box built into the pylon at the model's CG.

Bob also offers some construction tips. For the center panel he uses 1/8 x 1/4 balsa spars on the top and bottom with 1/4-inch vertical grain shear web in between. He continues the shear web into the right and left main panels, tapering them in thickness over the first three or four bays to 1/8, which continues out to the tips.

"I also use 1/16 plywood doublers from the center panel out three or four bays into the main panels," he said. "I've had issues with the larger Lindy's main panels breaking on DT landings. Wing flutter can also be an issue; I recommend covering with Polyspan."

Both Jim O'Reilly and Bob Holman offer CAD-drawn plans and short kits for the Lucky Lindy in 511, 658, 750, and 825-square-inch sizes.

The triple-finned Lucky Lindy is still a potent choice for the Nostalgia Gas events. Larry Davison (foreground) and Bob Sowder fly the design in a range of sizes.

The Lucky Lindy's wing utilizes a flat-bottom airfoil with diagonal ribs aft of the main spar and three turbulator spars in front.

Classical kw E-36

Bob Mattes has developed an elegant E-36 electric-powered model based on his Classical Gas 1/2A design, featured as a model of the year in the *2009 National Free Flight Society Symposium*. The E-36, dubbed "Classical kw," incorporates many of the

Sunlight accents the wing and stabilizer structure of Bob Mattes' new E-36 model. Even the molded fiberglass fuselage seems to glow.

The wing structure makes extensive use of carbon fiber in the spar and as rib capstrips. Diagonal ribs stiffen the front of the wing; carbon rib caps overlap at the LE.

design and construction features of the 1/2A design, but the wing aspect ratio has been reduced from 8.9 to 5.3 to 1 to fit the 36-inch maximum wingspan required by the E-36 rules. The projected wing area of 244 square inches is larger than most other E-36 designs—roughly 200 square inches.

The construction Bob uses for the wing is unusual. "You first build the complete spar from tip to tip, and then add the ribs, LE, and TE individually for each panel. It takes longer to build the wing this way, but it is really strong."

The spar consists of a vertical-grain balsa core with 0.007-inch carbon-fiber caps on the top and bottom. "I think an important way to ensure a strong wing is to have continuous carbon caps from tip to tip, avoiding splices at the dihedral joints," he said. "Each cap strip is heated with a soldering iron to enable bending at the dihedral breaks."

After the carbon caps are in place, both sides of the spar are covered with light carbon-fiber mat. The spar is wrapped with aramid thread spaced 1/16-inch apart near the dihedral breaks and 1/4-inch apart over the rest of the spar. This is repeated in the opposite direction to equalize twisting loads.

The top and bottom of the spar are capped with 1/32 balsa to protect the thread. The rest of the wing is built around the spar, one panel at a time. All of the ribs are capped on the top and bottom with 0.004-inch carbon fiber. The carbon-capped X ribs in front of the spar add considerable torsional strength to the wing, but weigh less than a carbon D-box.

Picco P-Zero

Doug Galbreath is converting a limited number of Picco RC buggy engines for FF and CL use in the 1/2A category. It is not a simple conversion. In addition to adding a propeller driver and spinner, Doug replaces the RC throttle assembly with a custom-made venturi and needle valve, machines a new

cylinder head to fit Nelson glow plugs, and modifies the original head-clamping ring. He also de-strokes the crankshaft slightly to reduce the displacement to 0.50 cu. in.

The modified engine can be beam or radially mounted and weighs roughly the same as a Cyclon 1/2A. Doug claims the performance is at least as good.

"It unloads going straight up in my Maverick. It is easy starting and runs on bladder tanks with the venturi size I use."

The engine is $165 plus shipping.

The only problem encountered with the engine has been from using an electric starter on a flooded engine, which can lead to breaking the crankshaft. A few engines from Doug's first batch of Picco P-zeros experienced the problem. Engines shipped after October 16, 2012, have a heat-treated crankshaft that should solve the breakage problem.

Doug asks anyone who purchased an engine before that date to send him the crankshaft or the entire engine so the crankshaft can be heat treated.

SOURCES:

Jim O'Reilly
(316) 744-0856
www.jimoreillymodelplans.com

Bob Holman
(909) 885-3959
www.bhplans.com

Bob Mattes
(636) 447-9580
bobmattes@charter.net

Doug Galbreath
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Changes to CL rules

by Ted Kraver
ted@kraver.cc

Fliers and aircraft at the Cholla Chopper 1cc Multi-Engine Profile Scale contest. Photo by Mack Davis.

Significant changes made to AMA CL general rules during the 2011-2012 rules cycle have moved pilot control of flight options into the 21st century. Using 2.4 GHz (utilizing spread spectrum, Code of Federal Regulations, Title 47, Part 15), radio control is now allowed to accomplish functions other than providing aerodynamic control of the model's elevation on CL models.

All control functions must be under the direct control of the pilot and only the pilot. The chairman of our Scale Contest Board, Mike Gretz, reports that at the time of the writing of this column, the expected new rule for CL and RC fixed-wing Scale will be:

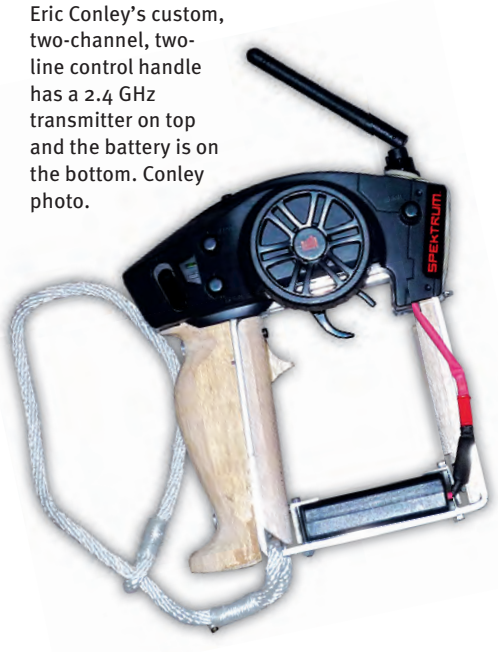
1.1 Use of Radio Signals: The use of 2.4 GHz radio control signals shall be allowed for controlling auxiliary operations, including but not limited to throttle, flaps, retracts, landing gear doors, droppable stores (bombs, torpedoes, fuel tanks, parachutes, etc.) Radio control cannot be used to provide aerodynamic control of the model's elevation. Elevation must always be controlled by way of one or more control lines which manipulate the model's control surfaces during flight by traditional means, as mandated in the CL General Rules.

Many CL fliers have been experimenting with 2.4 GHz systems. Eric Conley of Reno, Nevada, has built a Bill Bischoff-designed custom handle than incorporates a Spektrum transmitter on top and battery on the bottom. Eric formed a 1/8 aluminum structural square to carry the pull test and added a carved, wooden hand grip. The two-line connectors are fixed and elevation neutral is adjusted via line clip size.

Will a 2.4 GHz CL handle emerge from a commercial enterprise? The world wonders …

Multiengine Profile Contest

The concept for a boutique 1/2A,1cc multiengine Profile Scale contest was invented in 1976 by Ron Duly and Dave Braun of the Valley Circle Burners in



Eric Conley's custom, two-channel, two-line control handle has a 2.4 GHz transmitter on top and the battery is on the bottom. Conley photo.

Southern California. This dying event was picked up by Mike Keville and has been a rousing success. The mid-October contest wraps up the Cholla Chopper's flying season in Tucson, Arizona.

Mike keeps us on our toes by changing the rules each year, with changes such as adding points for more than two engines and for multiwinged aircraft. His Limited event is similar to the 2012 Nats event, but the Unlimited event has three elective maneuvers and throttled engines are desirable.

This year saw a number of new aircraft such as Keith Trostle's German Mistel version of a Junkers Ju 88A4 with a Messerschmitt Bf 109 on top—three engines turning, plus two wings lifting.

Lou Wolgast went a more traditional route with a de Havilland DH.66 Hercules 1920s trimotor with two wings, two elevators, and three rudders. Leroy Black built a Heinkel He 177 that towed a wing-shaped drop tank. Leroy tried, but failed, to convince the judges that his arrangement constituted a biplane.

Jim Fruit donated his Laird Super Solution model to the EAA AirVenture Museum. Fruit photo.

I compiled the data on the models and the average wing loading was 19 ounces per square foot. Jim Hoffman's wing loading of 11 for his Lockheed Electra 10A delivered aerobatic flying capabilities.

Al Culver's Fokker D.XXIII push-pull arrangement was a challenge to fly at a wing loading of 30. Aircraft weight per engine averaged 13 ounces and ranged from 6 to 26 ounces. Wing area per engine averaged 100 square inches with a range of 50 to 200.

Norvel .061s were the most popular engines. The rule of thumb for using modern 1cc engines is 100 square inches of wing area and 13 ounces of aircraft weight per engine. Successful aircraft deviating widely from these numbers indicates flexibility for CL Scale designers.

Airplane Museums

Airplane museums are a two-way street for CL Scale modelers. We both acquire inspiration and documentation for the next aircraft and also receive intrinsic rewards by donating museum-quality models.

One Saturday afternoon, I took my annual trip to the Pima Air & Space Museum in Tucson, Arizona, of which I am a life member. The museum's more than 350 aircraft are mostly military. Many were culled as escapees from the aluminum smelters that devoured the thousands of post-war surplus aircraft parked in the Arizona desert.

I took landing gear photos for the third sprucing up of my 1/2A Profile Grumman F7F-3N Tigercat.

Jim Fruit of Zion, Illinois, went the other way when he donated his Laird Super Solution to the EAA AirVenture Museum in Oshkosh, Wisconsin.

This significant model donation complemented the full-scale airplane on display in the EAA museum. Jim had used the real airplane for photographic model documentation. He belongs both to EAA and AMA, which influenced EAA's decision to accept the model.

The scratch-built model is at a scale of 2 inches to the foot. It was originally designed to be powered by an O.S. .90FS, but was converted to electric power before completion. Its flight performance was relatively poor, contributing to the decision to make it a queen in the EAA hangar.

I am just getting started writing this column and I could use an uptick in the flow of information about CL Scale, including pictures, from readers. Many thanks in advance.

SOURCES:

Horizon Hobby/Spektrum
(800) 338-4639
www.horizonhobby.com

Norvel Engines
info@nvengines.com
www.nvengines.com

EAA
(800) 564-6322
www.eaa.org

Pima Air & Space Museum
(520) 574-0462
www.pimaair.org

Electronic Code of Federal Regulations (Title 47, Part 15)
http://bit.ly/WVWVkW

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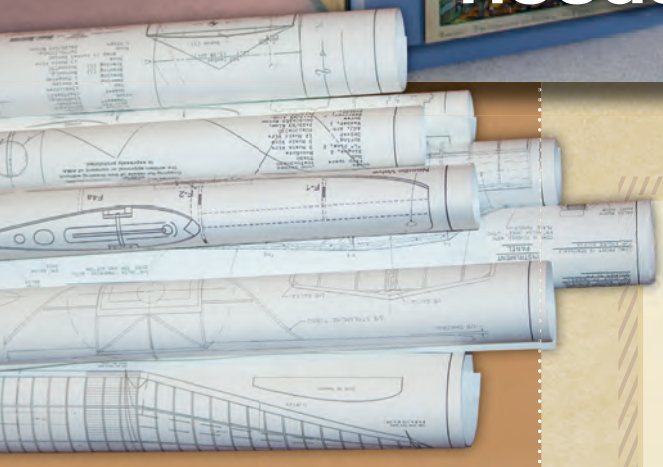

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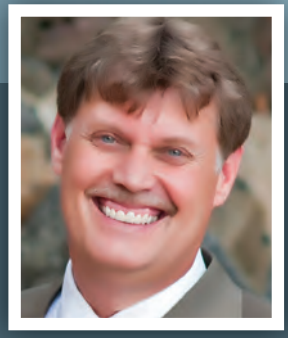
Chris Staats-Turner

Oregon Life Member, Life Patron, sailplane and electric park flyer pilot



AMA Life Member Chris Staats had been thinking about how he could give back to the hobby he has loved since he started flying CL in 1968 at the age of nine.

Upon his retirement from Entek International, where he served as chief information officer, he decided it was the perfect time to become a Life Patron, and support the National Model Aviation Museum, the world's largest of its kind.

Said Chris, "I have never been to the museum, but it is on my bucket list. Aeromodeling has meant so much to me, as it has inspired me in my career and has brought me closer to my family. In the past it was a great family activity for myself and my children, and now, I get to share the hobby with my grandchildren."

Chris's donation will go far, helping the museum to host events featuring many of its artifacts and continue to advance the historical preservation of these artifacts.

"I have many vintage Cox engines and Ace airplane kits that I have kept throughout the years. I look forward to seeing the museum's collection, as I believe it will take me back to my childhood. It is really important to remember where the hobby came from, and preservation of this history should be important to all modelers who have a true passion for aeromodeling. I just received my first copy of *Cloud 9*, and I have to tell you, the insider information I received when I read it made me even more excited to mark my visit to the museum of my bucket list."

Walk of Fame Bricks

Michael Clodfelder - OH
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Philip Sullivan - TX
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Burton G. Watkins – GA

***10% off Veterans Day AMA Walk of Fame special price**

Philip Sullivan - TX - $900* (Walk of Fame Brick)
In Memory of Edward Sullivan

Michael J. Dascoli - MA - $90* (Walk of Fame Brick)
In Memory of Ernest Dascoli

Daryl F. McCloskey - TX - $90* (Walk of Fame Brick)
In Honor of John C. Cone

Gelan Schmidt - MI - $90* (Walk of Fame Brick)
In Honor of Mike Thaxton

Thundervolts RC Club Inc. - NY - $90* (Walk of Fame Brick)
In Memory of Daryl Hull

Burton G. Watkins - GA - $90* (Walk of Fame Brick)
In Memory of Earl Robinson

In honor and in memory of

BAE Systems Matching Gifts Pro - NJ - $700 (Ryan Sherrow Memorial Scholarship)
Matched by Clay Sherrow
In Memory of Ryan Sherrow

Anonymous - $100 (Disaster Relief Fund)
In Memory of Ralph Jackson

Edward Paasch - NE - $25 (Education Fund), $100 (Museum Patron)
In Honor of Omahawks RC Flying Club

AMA News

Announcements, news, and information from the Academy of Model Aeronautics and the elected district representatives

VIEW FROM HQ *by Dave Mathewson, AMA Executive Director*

Consider how your actions could impact model aviation

davem@modelaircraft.org

As we enter the new year, we know it's going to be a busy one for AMA.

It's almost a certainty that the long-awaited small unmanned aircraft systems (sUAS) Notice of Proposed Rulemaking (NPRM) will be released in 2013. From what we know now, that's not likely to happen much before the latter part of the second quarter. However, there's no guarantee that it will be released then.

As many of you know, the NPRM is nearly two years past its original release date. Since that original date, the release of the NPRM had been delayed a number of times. And, in spite of what the public had been told about the certainty of the previous dates, the release hasn't happened.

The US Department of Transportation issues monthly reports concerning the progress of significant rulemakings. You can find these reports at www.dot.gov/regulations/report-on-significant-rulemakings. Once there, scroll down to Access the Report and click on the latest monthly report. AMA continuously monitors the status of the NPRM and will continue to keep its members updated.

If you've been following the FAA sUAS regulatory process for the last five years, you know that the intent of creating proposed regulation is to ensure safety in the national airspace. However, a new challenge that recreational model aviation may face has emerged.

In approximately the last six months, the media, the public, and even Congress have been debating privacy issues involving sUAS. By the end of 2012, there were approximately eleven bills or amendments introduced in Congress addressing privacy and civil liberties issues raised by the advent of unmanned aircraft systems (UAS) in the United States. Although most of the legislative proposals address the use of unmanned aircraft by government entities for surveillance purposes, all limit the use of sUAS to some extent.

In addition to the actions of Congress, public resistance, and that of organizations such as the American Civil Liberties Union, opposition to the use of unmanned aircraft for any type of surveillance is expected to grow in 2013.

How does all of this affect recreational model aviation? For years, modelers have enjoyed using model aircraft to take pictures from the air for personal use. We've all seen pictures of our fields taken from an RC model flying overhead. However, in some cases, the public sees little difference between what we do and that of commercial, public-use UAS conducted for law enforcement surveillance or for commercial use such as taking pictures for real estate.

That line gets further grayed when we see video taken by someone flying above a neighbor's backyard, invading the neighbor's privacy, and taking still pictures or video without the neighbor's permission.

Our best bet is to always remember that what we do as aeromodelers can be interpreted in different ways by different people. We should all consider how our actions will impact the decision makers and those who are involved in the regulatory process.

The goal of all of us should be to do our best to make sure that recreational model aviation doesn't get caught up in the black hole of regulation intended primarily for commercial, public-use sUAS.

The AMA Foundation is on track to officially launch sometime in the first quarter of 2013. The primary purpose of the foundation is to help manage an endowment that will support AMA programs including the Charles H. Grant Scholarship Program and support for the National Model Aviation Museum. AMA is fortunate to have thousands of members who donate to help support AMA programs each year.

The foundation will manage these donations to help grow the endowment as permanent funds in which the principal is preserved and invested. Earned returns are then distributed to support AMA programs in perpetuity (programs that are now supported by membership dues). More information on the AMA Foundation is available by calling AMA Public Relations and Development Director Chris Brooks at (765) 287-1256, ext. 276.

Congratulations to newly elected AMA vice presidents Randy Cameron, District VI, and Mark Johnston, District VIII. I have had the opportunity to meet both Randy and Mark and I believe they will be fine additions to the AMA Executive Council.

And, finally, thank you to outgoing vice presidents Charlie Bauer and Jim Rice. Both have invested thousands of hours in support of AMA and its membership. Although they may no longer be representing their district membership on the Executive Council, both have offered their continued support to AMA President Bob Brown in helping the organization in any way they can.

See you next time!

amaevp@gmail.com

FPV details and women fly too!

The 2012 AMA election results have been posted to AMA's website. I would like to congratulate our new vice presidents (VPs) from District VI, Randy Cameron, and from District VIII, Mark Johnston.

I would also like to congratulate VP incumbents Eric Williams from District II, Mark Radcliff from District III, Bliss Teague from District IV, and Lawrence Tougas from District X. We look forward to working with you on Council!

I had an opportunity to attend the JR Indoor Electric Fun-Fly held in early November in Columbus, Ohio. Dave Mathewson, Bob and JoAnne Brown, and I staffed the AMA booth.

It is interesting to speak with our members, take new memberships, and fly with fellow modelers. It is in these settings that we have the opportunity to listen to what our members feel is important. There were many positive comments about the new *MA* format.

Our former Education Director and longtime modeler, Jack Frost, came to us to tell us about a lady at the event who loves to fly model aircraft. I had the opportunity to meet with Carolynn Foss and her husband, Pete, from Oxford, Michigan.

I found Carolynn knitting, which is her other passion, and introduced myself. She told me that it was rather difficult being accepted in a men's fraternity, not to mention finding someone who would teach her to fly. She persevered and flies today!

Women are an untapped new member resource and they bring new energy and ideas into our clubs. Something to ponder?

In my October 2012 column, I mentioned that First Person View (FPV) changes were forthcoming. I received the most comments ever about this column.

Led by Andy Argenio, the Executive Council approved new, more-liberal rules for flying FPV. The following is a brief synopsis of AMA Document 550:

- AMA FPV novice pilots must use a buddy-box system with an FPV spotter while learning to fly.
- All FPV flights require an AMA FPV pilot to have an AMA FPV spotter next to him or her maintaining visual line of sight with the FPV aircraft throughout its flight.
- The AMA FPV spotter must communicate with the FPV pilot to ensure the FPV aircraft remains within visual line of sight, warning the FPV pilot of approaching aircraft, and when avoidance techniques are necessary.
- If the FPV pilot experiences a problem due to loss of video link, orientation, or is unable to safely fly, he or she must abandon FPV mode and fly visual line of sight or pass the RC transmitter to the FPV spotter to assume visual line of sight control of the aircraft.
- Before initial FPV flight and after any flight system changes or repairs, the FPV model aircraft must be test-flown by conventional visual line of sight to determine that flight systems are working properly.
- The FPV spotter may at any time during the FPV flight acquire the transmitter from the FPV pilot and assume visual line of sight control of the aircraft.
- FPV model aircraft must use frequencies approved by the FCC for both the RC system and the wireless video system. Pilots must meet applicable FCC licensing requirements if they choose to operate the RC flight control system or the wireless video system and amateur band frequencies.
- One of the requirements and federal law [public law 112-95 section 336 (c) (2) February 14, 2012] for model aircraft to be excluded from FAA regulations is that model aircraft be flown within visual line of sight of the operator.
- Model aircraft flown using FPV must remain at or below 400 feet above ground level when within 3 miles of the airport as specified in the AMA safety code.
- Model aircraft flown FPV are limited to a weight (including fuel, batteries, and onboard FPV equipment) of 15 pounds and the speed of 70 mph.
- AMA FPV pilots should consider using a programmable autopilot, as described in AMA document #560, when the failsafe "return to launch point" feature that will maintain control of the aircraft in the event of signal loss.
- The use of imaging technology and Radio Controlled model aircraft with the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of aerial surveillance data/information on individuals, homes, businesses, or property, is strictly prohibited by the AMA unless expressed written permission is obtained from the individuals, property owners, or managers.

This information constitutes most of the important points of AMA document #550, but anyone interested in flying FPV should download and review documents #550 and #560. AMA has listened to the hobbyists concerning FPV and we hope that you will take the new rules seriously and work to safely enjoy this exciting segment of the hobby.

Thanks for reading. Until next month, help secure our future and take a youngster (or significant other) flying.

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The Distinguished Service Award is presented posthumously to Billy O'Donnell and accepted by his wife, Maureen, along with family members, friends, and district officers.

Billy O'Donnell, CD, at a 2010 multi-club event.

The Billy O'Donnell Memorial Multi-Club Event was held at the flying site of the SSRCC in October 2012.

Within the AMA community, there are special members who frequently volunteer to take on responsibilities and perform activities that make the sport of aeromodeling better for everyone. Each of us needs to recognize the contributions of these members with a simple thank you to convey personal appreciation.

As a district vice president, I am called upon to present formal awards to the extraordinary special members who, for years, give their time and energy to advance the mission of the AMA, its members, clubs, competitions, and future.

The highest award a district vice president can give a member is the Distinguished Service Award, which requires Executive Council approval. I have presented three Distinguished Service Awards and this column tells the story of one of the award winners.

In July 2012, my dear friend and AMA CD, Billy O'Donnell, passed away after a brief illness. We lost one of the friendliest and most passionate leaders in our aeromodeling community.

Billy was a member of a number of AMA clubs, serving as a president, club officer, and event director for numerous events including the multi-club events that he created and promoted. These multi-club events were conceived to bring members from district clubs together in a collaborative effort designed around having fun-fly, non-competitive flying events hosted at suitable club locations.

Multi-club events were an immediate success, and as a result of Billy's inspiration, these types of events have spread throughout New England.

The South Shore Radio Control Club (SSRCC) has renamed its annual event The Billy O'Donnell Memorial Multi-Club Event.

In 2007, Billy convinced the public parks authority in Milford, Massachusetts, to allow the Millis Model Aircraft Club to conduct an RC demonstration day event in a public park within town limits. This event has grown to one of the largest-attended flying events in the district—exposing thousands of spectators each year to the joys of RC model aircraft flying.

Billy was also the originator of the District I club presidents' meetings in which club presidents had the opportunity to get together along with the district vice president and associate vice presidents for a meal and meeting to discuss methods to address common club issues and concerns, develop ideas for shared events and activities, and means to improve community relations and public awareness of the sport of aeromodeling.

I was privileged to have awarded Billy O'Donnell the AMA Distinguished Service Award posthumously. It was accepted by his wife, Maureen, and his family during the October multi-club event held in Billy's honor at the SSRCC flying site.

This award was presented for Billy's 10 years of exemplary efforts in advancing AMA's mission as an AMA member, club officer, CD, and for planning, organizing, and conducting flying events to promote aeromodeling and comradery amongst members and clubs.

Future columns will tell the stories of other Distinguished Service Award winners from District I.

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District II—New Jersey, New York, Europe

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I'd like to thank all of our members for participating in the various AMA district elections last fall. I have met so many great people during the past year as District II vice president. I must pause to thank our District II members for giving me the honor of continuing to serve.

I hope to have the opportunity to meet and fly with all of you. There is tremendous fun and enjoyment for all of us to share at our clubs, flying fields, and events. Here is to another great flying season this year!

You'll remember last month's report of devastation in District II after Hurricane Sandy in October 2012. Coastal New Jersey, Staten Island, and Long Island were significantly affected. A good-news follow-up is Long Island's Whitman Flyers celebrated becoming an AMA Gold Leader Club on November 28, 2012. Our congratulations to these hard-working members and their supportive families and friends!

Becoming an AMA Leader Club is a significant accomplishment! Leader Club status is an acknowledgement by AMA of a club's community involvement, charity programs, safety efforts, training programs, and similar good works.

Local elected officials are delighted to promote clubs recognized by a national organization, such as through the AMA's Leader Club awards, and local newspapers will acknowledge Leader Club awards, too! Being an AMA Leader Club can be helpful when applying for an AMA grant program. Working to be a Leader Club has many benefits!

The Whitman Flyers club celebrates its Gold Leader Club Award.

District II's Westchester Radio AeroModelers (WRAM) show, the largest in the Northeast, is back at the Meadowland Expo Center in Secaucus, New Jersey, February 22-24, 2013. Show goers and vendors were pleased at last year's new location.

Expanded parking, increased exhibits, more modeling products, open spaces, and better food choices were just a few of the improvements. It's wonderful to see this event's continued success. Please be certain to stop by the AMA booth and say hello!

WRAM Show 2012 at the Meadowland Exposition Center.

The Garden State Circle Burners (GSCB) held its traditional fall swap meet in Wayne, New Jersey, this past November. As always, it was a great affair with many modeling goodies changing hands and several notables in attendance.

John "Mr. Stunt" D'Ottavio received his Model Aviation Hall of Fame Award, and our District II CL and FF Contest Coordinator Dave King was presented with an AMA Distinguished Service Award. Check out other great events on AMA's event calendar.

Eric Williams with John "Mr. Stunt" D'Ottavio and his AMA Hall of Fame award.

Eric Williams presents David King with an AMA Distinguished Service Award.

A rite of passage for all modelers in Syracuse, New York, is visiting Walt's Hobby! Walt Throne, his wife Jan, their son Bruce, their families, and employees, are among the biggest supporters of AMA and modelers anywhere.

On November 17, 2012, it was my pleasure to attend Walt's annual Secret Santa Sale. Tables were generously provided for club displays and Devin McGrath, Kyle Stacy, and others flew great demos. Thanks to the Thrones for giving back so much in the spirit of our hobby!

Walt Throne (L) donates raffle proceeds to the AMA Club Disaster Relief Fund.

Remember, it's not about what we fly, it's about the people and the friends we make!

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District III—Ohio, Pennsylvania, West Virginia

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The Sky Sharks club proudly announces its library exhibit.

The Sky Sharks' display at the Barlow Library.

We all have a great passion for our hobby and enjoy showing our models and flying skills to everyone who will look and listen. The Vienna Sky Sharks Model Airplane Club of Vienna, West Virginia, was recently featured in a family flying event sponsored by the Barlow Branch of the Washington County Public Library. The program provided the Sky Sharks the opportunity to showcase the building and flying of RC aircraft.

Community members came to see a static display of aircraft of all types and sizes. Sky Shark members then treated library visitors to a flying exhibit in an area behind the library. Library Branch Manager Anna Henry stated that the program was one of the most successful ones of the year. Great job, Sky Sharks!

On Saturday, October 6, 2012, the Fairmont Flyers, of West Virginia, hosted its inaugural Toys for Tots fundraiser and toy drive. Despite morning showers and cool weather, the event was a success—attracting pilots from Pennsylvania, as well as surrounding clubs in the West Virginia area.

Sgt. Weber, district coordinator for the Marines' Toys for Tots campaign, was pleased with the turnout. The Fairmont Flyers members were able to overflow the toy bin that Sgt. Weber brought and presented a $202 donation from funds raised through raffles.

Prizes were provided by Dave's Hobby Stop of Bridgeport, West Virginia, Nixon's Trading Post, of Fairmont, West Virginia, and Tower Hobbies.

Several non-flying community members and families stopped by throughout the day to watch the demonstrations, enjoy hot dogs, and talk with some of the pilots who braved the early morning weather, which turned into a beautiful autumn afternoon.

Sgt. Weber accepts a Toys for Tots donation from the Fairmont Flyers.

I would like to announce the appointment of Chuck Westfall as a new District III associate vice president for West Virginia. Chuck has been modeling for more than 30 years, beginning with FF and CL, then moving on to RC cars and airplanes. Chuck has been president of the Jackson County Aeromodelers club for many years and flies Scale aircraft in contests. One of Chuck's favorite aspects of model aviation is teaching youth and adults how to fly.

Chuck, a military veteran, is the founding father of Operation Santa Claus in the state of West Virginia. This fun-fly raises money and collects toys for the children of our service men and women who are in need of help for Christmas.

Chuck has CDed several Scale and fun-fly events and helped in the creation of the West Virginia RC Expo, held annually in Millwood. I think Chuck's enthusiasm and can-do attitude will be a big asset to model aviation and the AMA in the years to come. Welcome aboard, Chuck!

New WV District III Associate Vice President Chuck Westfall.

To close this month, I want to thank everyone for voting in the recent AMA elections. I am honored and humbled that you elected me as your District III vice president. I am an active flier and can be seen at many events throughout Ohio, Pennsylvania, and West Virginia. I feel this is an important element in representing you to the AMA.

When you see me at an event or visiting your clubs, I am happy to talk about the issues facing modelers and AMA, both now and in the future. I assure you I will do my best to represent you, the modelers of District III. Thank you again for your support and hope to see you soon.

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The following story comes from Tom Bennion, safety officer for the Davis Bridge Aeromodelers in Parkton, North Carolina.

On Saturday, May 12, 2012, the Davis Bridge Aeromodelers (DBA), hosted a display and flight demonstration for Cub Scout Pack #329, Cape Fear Council, Lumber River District. Cub Scout Pack #329 is a new pack located in Parkton, North Carolina. Although it was Mother's Day weekend, we had a great turnout from Davis Bridge Aeromodelers members.

Thirteen Davis Bridge members and one guest member, Vince Warren of the Fayetteville RC Club fielded 32 airplanes for display and flying. After a short introduction by the Davis Bridge safety officer, the Scouts were given an opportunity to walk among the airplanes for a closer look at all of the models, as well as talk with the club members.

All of the Cub Scouts and their Scout Masters were then moved to a safe area, while some of the members showed off their flying skills. Using one trainer aircraft, each Cub Scout was escorted to the flightline and given an opportunity to fly the trainer using a buddy-box system.

The event was small by most standards, but this allowed DBA members to spend more time with each Cub Scout and the leaders. Before the event, the Davis Bridge Aeromodelers ordered 15 Starfire Gliders from the AMA's Cloud 9 Museum Store so that we could give each of the Scouts a souvenir.

We left them with a challenge to build the airplanes at one of their meetings then have a contest to see who could fly theirs the farthest. They have accepted our challenge and will let us know the results. The Cub Scouts enjoyed the activities and the Davis Bridge Members did as well.

Davis Bridge Aeromodelers and Cub Scout Pack 329, May 12, 2012.

Patty Weik (Pack 329 secretary/treasurer) watches as her son, Quentin, receives some hands-on training from Davis Bridge members Rick Beasley, Tom Bennion, and guest Vince Warren.

Members of Pack 329 talk with Davis Bridge member Johnny Raynor about his collection of electric-powered warbirds.

The Scouts receive a welcome and safety briefing from Davis Bridge Safety Officer Tom Bennion.

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District V—Alabama, Florida, Georgia, Mississippi, Puerto Rico, South Carolina, Tennessee, US Virgin Islands

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Hi, gang!

By the time you read this, December 21, 2012, will have come and gone, the planetary alignment did not cause the end of the world, and we are still burdened by the vagaries of everyday life. *What do we do?*

We continue to promote model aviation by doing what we have always done: building and flying model airplanes! This new year, go out and teach someone how to enjoy model aviation the way we all do. Get the word out. Attend one more event than what you did last year.

Get that project off of the board or that ARF flying, and introduce someone who has never enjoyed this hobby to it! I can help. Let me know how you are doing!

I want to thank everyone who has dropped a line, given me constructive criticism, helped me run an event, traveled to events with me, fed me, listened to my boring stories, and helped me enjoy the hobby that, for me, is a way of life. Some of the best rewards of being a district vice president are the friendships that are made and cultivated through model aviation. Thank you!

District V has an amazing amount of activities going on throughout the year and it is impossible to attend them all. Your associate vice presidents (AVPs) are there for that. Say hi, encourage them, and thank them when you see them. They do the AMA's work and represent you. I thank every AVP in the AMA, not just District V. They are getting out there and getting the job done!

This past November, we had a CL race event we called The Rule Bender. The event was held at Paradise Field in Ocklawaha, Florida. The owners of the field, H. David and Danette Wallick, were wonderful hosts and we had a great time.

There were entrants from Cuba, Kiev, Russia, England, California, Minnesota, and good ol' Florida. The flying was fast and furious. The competition was good, the food was excellent, and the friendships made and rekindled were the frosting on the cake. If you fly CL and you're in Florida, look up Paradise Field and bring an airplane!

Thanks to all the international travelers who joined AMA in making this event possible!

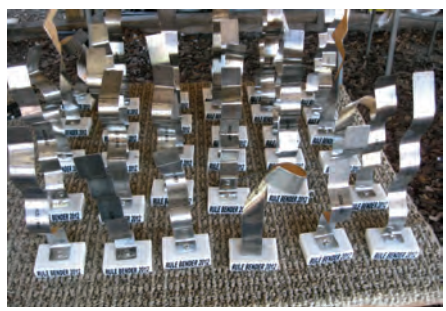
Team Russia.

Team Cuba.

Paradise Field.

H. David Wallick (L), host and mechanic; Dave Fisher (R), national record holder and pilot extraordinaire; Jim Holland, pilot/mechanic, F2C maniac; Cody, field maintenance guru.

Racing action.



The Rule Bender trophies.

Wallick in action!

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Innsbrook, Missouri: Eighteen pilots and 24 airplanes, representing five clubs from the Saint Louis area, came together to fly at the 18th Annual Innsbrook Float-Fly. Pictures and information were sent in by David Evan.

Bill Moran's Cub makes a pass over the water.

Danne Anderson's Blazer is a perennial performer at Innsbrook.

Bob Smaglik brought a new biplane this year.

Dan Fitzpatrick's Catalina was another new model this year.

Marcus Tetzlaff's Ultra Stik makes a nice landing.

George Scayer brought an Icon A5, another new model.

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District VII—Iowa, Michigan, Minnesota, Wisconsin

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It goes without saying that what we do may just not be for everybody, and that's not necessarily a bad thing. It's hard to imagine what our hobby might look like if we had the same participation level as something such as golf. The thought of what club membership dues might be and having to book a flight time are a couple of things that would make me nervous.

Although we're outnumbered by many other mainstream hobby activities, we have the ability to leave a much larger footprint than our size because of the many visitors who come out to our fields to watch us fly. In taking it a step further, by partnering your club events with service organizations or other charitable causes, we can further cement ourselves as doers of good in the community.

In planning your club events this year, please consider reaching out to a worthy cause in your area to see if you can lend a hand. In addition to the immediate public relations boost, the friendships you make along the way can reap long-term benefits down the road. I'm sure I've mentioned this before, but you just can't have too many friends.

This month's event report and photos comes to you courtesy of Neal Leeper, president of the Black Hawk R/C Pilots of Cedar Falls, Iowa.

For the last 11 years, the Black Hawk R/C Pilots have sponsored the E/xpo in the UNI-Dome indoor fly-in in February. The UNI-Dome is a domed football stadium on the University of Northern Iowa campus in Cedar Falls.

The UNI-Dome opened in 1976, but had an inflatable fabric roof that was held up by air pressure from several large fans. This created high velocity airflow inside the UNI-Dome that made RC flying impossible.

In 1999 the fabric roof was replaced with a rigid roof structure and the fans were removed. The new roof was also higher at 164 feet above the floor (the height of a 16-story building!). The combination of a high roof and a large overflight area over the stadium seats makes the UNI-Dome one of the best indoor flying sites in the US.

Early fly-ins were one-day events. The UNI-Dome was also used for basketball games, so those flying had to avoid basketball backboards.

In 2004, a new basketball fieldhouse was built and the UNI-Dome was available without obstructions. At that point the club decided to go to a two-day event that would make it possible for fliers from farther away to make the trip to Cedar Falls to fly. Attendance has grown and there has been an average of 125 pilots in attendance the last couple of years.

One of the challenges of an event such as this, with a large number of pilots, is finding a way to make the flying experience a good one for all of the pilots. After trying a couple of different arrangements, the club has settled on a single, 120-yard long flightline with 22 flight stations, nine 3-D and helicopter stations, eight stations for flying in a circular pattern, and five micro flier stations. In addition, there are two hover-only stations for helicopter pilots to make trim adjustments without occupying a regular flight station.

The event also draws several hundred spectators. To provide entertainment for the spectators, the pilots are invited to participate in an air show that includes a history of flight, featuring aircraft from the earliest days of flight to the latest foamie jets, and 3-D and heli demonstration flights. The air show concludes with a couple of combat events, one with streamers and one where the last pilot flying is the winner.

The E/xpo in the UNI-Dome is a unique event. Many pilots return annually for a chance to fly what is more like an outdoor flying experience than an indoor one in the middle of the winter.

For more information go to the website at www.expodome.org.

Take a kid flying!

Outside of the UNI-Dome.

The 2012 pilots in attendance at the E/xpo.

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Tel.: (210) 213-0299; www.amadistrict-viii.org

Jim Rice and his Dream Machine. Photo by new District VIII Vice President Mark Johnston.

As most know, Randy Brown withdrew from the election for District VIII vice president (VP) because of business concerns and recovery from Hurricane Sandy. He and Mark Johnston, who was elected to the position, were my personal selections.

Everyone who asked me who I supported in the election got the same answer, "You wouldn't expect me to pick a favorite among my children and I am not going to pick between my loyal supporters in the District VIII mission."

Either could have been a tremendous VP, so a vote for either was the right choice. Upon submitting his resignation Randy said, "I hope the best for District VIII's new VP and newly appointed associate vice presidents (AVPs) and Safety Coordinator. I hope that someday in the future will be a better time for me to help and volunteer [for] such a great organization."

Well said, and I hope that he *does* rejoin the volunteer effort in District VIII and help Mark grow it to bigger and better things.

Mark Johnston and I discussed his running for the office at least four years ago. When I retired, I wanted quality, trained volunteers ready to accept the nomination and carry on. He acknowledged that he was motivated to do so and our dialogue has continued over time.

I am delighted that he accepted the challenge and has been elected to the position. Please give him the same support you provided me.

I wrote this in November, and I asked Mark to finish the column as the new VP, although he doesn't assume the duties until the first of the year. With that, I must say adios; I was humbled by the nomination, awed by the mission, stunned by the welcome at every turn, and proud of the quality of work and effort by your volunteer staff.

I say again for the last time, the only paycheck a volunteer ever receives is a firm handshake with a look in the eye and a sincere thank-you. Thanks to all who have been there for me and the Academy!

Have fun and fly safely!

—Jim

Mark Johnston and his Ohio State airplane.

Thanks to Jim Rice for his six years of service to AMA as our district vice president. He has been an outstanding VP and has represented us well. I have asked him to serve the district as an AVP for safety as we move forward. I am also looking for an AVP for the Dallas /Fort Worth Area.

Big thanks to Randy Brown for his hard work! I was sorry to see him step down; he would have done a great job as VP.

We should all be prepared to support those in need whether from a natural disaster or some other circumstance. I wish Randy the best as he tries to get his hurricane-stricken areas back to normal and I hope he finishes quickly so he can rejoin our great volunteer group in District VIII.

One of our District VIII members, Pete McIntosh of the Alvin R/C Model Airplane Association, is a recipient of the Carl and Beth Goldberg Vital People Award. It was presented to Pete on November 17 by Randy Brown and Benny Behrens who nominated him.

Pete McIntosh (C) receives his Vital People Award from Benny Behrens (L) and Randy Brown (R).

On October 28, the Gary Harvey Memorial Fun-Fly was held in McKinney, Texas, by the Richardson R/C Club. Allen Delger CDed the event and had a great list of sponsors in support of wounded warriors.

Hope to see you all at the field!

—Mark

Associate Vice Presidents: **Bill Holland,** Edmond OK; (405) 562-1327; **Mark S. Johnston,** Albuquerque NM; (505) 823-0158; **Jim D Marshall**, Alton TX; (956) 984-9474; **Jon Martin**, Rayne LA; (337) 783-2759; **Jack Matlock**, Live Oak TX; (210) 413-4846; **Randy Ritch**, Magnolia TX; (281) 701-3121; **Bobby Smith**, White Oak TX; (903) 759-1905; smith4911@att.net; **Doug Staines**, Belton TX; (254) 780-3512; **Ron Stanfield**, Maumelle AR; (501) 851-1697; **Cliff Town**, Dumas TX; (806) 935-3063; town_cliff@hotmail.com; **Pat Willcox**, Kingwood TX; (281) 358-1750. **Frequency Coordinator**: **Gene Kent**, Tomball TX; (281) 255-4805. **Safety Coordinator**: **Randy Brown**, Kemah TX; (713) 515-5552; randybbrown@earthlink.net. **RC Contest Coordinator**: **Douglas E. Powell**, Wichita Falls TX; (940) 691-8348; chief2@sbcglobal.net. **CL/FF Contest Coordinator**: **Bill Lee**, Chandler TX; (903) 852-5599; Bill@WRee.com. **AMA Display Coordinator**: **David Johns**, Deer Park TX; (281) 476-4820.

District IX—Colorado, Kansas, Nebraska, North Dakota, South Dakota, Wyoming

Jim Wallen
Vice President

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Tel.: (303) 421-9061; www.amadistrict-ix.org

Travis McGinnis receiving his Distinguished Service Award.

One of the most prestigious awards given by the AMA is the Distinguished Service Award. It was an honor and pleasure to present this award to Travis McGinnis at his local club meeting in District IX.

Travis has held various positions in the AMA. He most recently chaired the AMA Education Committee, which initiated the award. Congratulations again to Travis!

A picturesque float flier on Long Lake in Arvada CO.

Float flying has always been a rewarding facet of our hobby. It seems to be picking up in District IX. Long Lake in Arvada, Colorado, has been a popular hangout for float fliers. Although the lake is more of a pond and can present some challenges, the pilots always thoroughly enjoy their experiences there.

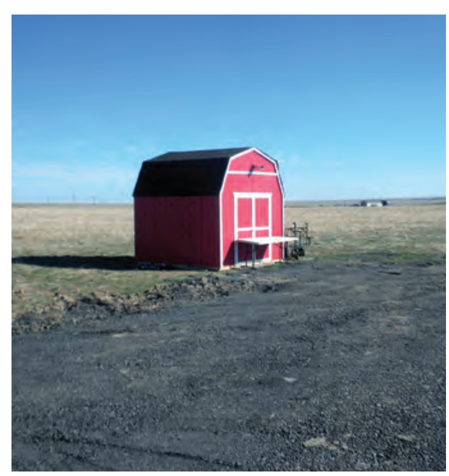
Liftoff from the glistening pond.

This pilot speaks German.

One of the district's associate vice presidents is Tom Neff, who is also president of Airpark Elite. This club has been a leader in teaching youngsters how to fly.

The club ran into some bad luck at its flying site when a new owner refused to let them fly there any longer. We all know that a flying site is the glue that holds clubs together.

Tom was able to locate property for a new field, and with AMA's help, started construction. The runway is roughly 60% completed and the club is trying to locate funding for a 2-inch asphalt overlay that will cost approximately $35,000. Members are currently flying off the compacted roto mills. That works, but it is a little rough.



You have to start somewhere and Airpark Elite members have finished a storage shed and are currently focusing on the runway.

Associate Vice Presidents: **Norm Berger**, Parker CO; (732) 763-0301; acedrummond@gmail.com; **Bob Hatch**, Montrose CO; hatch3rdhome@aol.com; **Tom Neff**, Aurora CO; (303) 829-5416; candymantom@q.com; **Brenda Schuette**, Auburn KS; blschuette@cox.net; **Mike Tallman**, Wichita KS; miketallman790@yahoo.com; **Jim Tiller**, Rapid City SD; jtiller@hotmail.com. **Ed Paasch**, Omaha NE; (402) 391-2855; bigedmustafa@hotmail.com. **Webmaster**: **Norm Berger**, acedrummond@gmail.com. **Contest Coordinator**: **Mac Strader**, Overland Park KS; rcmac@everestkc.net

District X—Arizona, California, Guam, Hawaii, Nevada, Utah

Lawrence Tougas
Vice President

ama.district10@gmail.com
1827 Santa Monica St., Fairfield CA 94533
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The AMA's annual elections have concluded. Congratulations to Mark Radcliff, District III vice president (VP), and Eric Williams, District II VP. They stepped up when Bob Brown and Gary Fitch left their district positions to assume national offices. Now, Mark and Eric have the endorsement of their members, which is no surprise to anyone who knows either of them.

Bliss Teague, our District IV VP, will continue to serve with distinction.

I look forward to working with our newest Executive Council members, Randy Cameron in District VI, and Mark Johnston in District VIII. Our organization always benefits from fresh faces and new ideas.

I want to thank all of the District X members who cast their votes for me. It's been a long journey from the day in 2009 when I decided to run for office. It has taken me through the 2009 election that was decided by a 34-vote margin, to our 2010 special election that installed me as your vice president. The first two years have been a joy and I look forward to the next three.

One of the most active Arizona RC clubs is the Arizona Model Pilots Society (AMPS). It has worked hard to earn the AMA's Silver Leader Club award. The AMPS club was presented the award by Roger Willis, our District X associate vice president (AVP) for Northern Arizona.

President Jim Mohan accepted the award on behalf of the members who each received a Silver Leader Club pin to designate the achievements.

Jim Mohan, AMPS president, receives his Silver Leader Club Pin from Roger Willis.

The AMPS was formed in 1980 by a group of Arizona Power Service employees and was initially sponsored by the company. Through a lot of hard work and some help from former Arizona Senator Barry Goldwater, the AMPS flying site was developed and has been up and running for many years.

If your club has not started the Leader Club process, I can't encourage you strongly enough to do so. The Leader Club program encourages groups to conduct themselves with the best practices that the AMA has determined will help integrate your club into your community. Don't delay, act today. Information and the application are on the AMA's website.

Rick Maida, District X AVP, and his wife, Merriam, sent a story and pictures from the 2012 Lake McSwain Float Fly. The event was held September 21-23, 2012, in Snelling, California.

Gary Wolz and the Turlock club offered three days of flying and a barbecue dinner for all on Saturday evening. The cooks were Dwight Cathcart and his boys. Dwight used to do all the cooking back in the days of the big Crows Landing International Miniature Aircraft Association fly-in.

The weather was slightly hot but made for pleasant evenings. This year, the rangers and the Turlock club worked things out so that night flying was possible—pretty cool. Denny Baker happened to have his Sig Rascal on floats with a whole bunch of lights, and yours truly got the stick honors.

The pilot count was up from last year. The gang from Ventura came up for its ninth year in a row. They went back with a bunch of raffle prizes. The raffle was a big success.

I can't wait for next year's event.

IMAA District X Director Ken Shapiro with his Cub on floats.

Don Coulter with his Kellett Auto Gyro on floats.

If you're reading this and asking yourself, "Why don't they ever show … in the District X column?" my response is to send in a write-up and pictures and you'll likely see it before you know it. If you have any questions about submissions, please drop me a line.

Until next month, I wish you nothing but happy landings.

Associate Vice Presidents: **Tim Attaway**, Chula Vista CA; (619) 427-6392; trattaway@cox.net; **Denny Baker**, Brentwood CA; (925) 513-1224; race690@aol.com; **Forrest Barton**, Woodland CA; (530) 383-9019; cbarton328@aol.com; **Duke Chung**, Honolulu HI; (808) 421-1094; duke@hawaiijets.com; **Greg Clemensen**, Las Vegas NV; (702) 870-6242; electricgreg@cox.net; **Kevin Houser**, Oro Valley AZ; (520) 490-7657; khouser@rocketfarmers.com; **Tim Johnson**, Downey CA; (562) 965-4288; hobbyman.tj@ca.rr.com; **Mike Lee**, Redlands CA; (951) 733-8621; mlee8249@msn.com; **Rick Maida**, Morgan Hill CA; (408) 778-6885; mrcorsair@usa.net; **Scott Malta**, Merced CA; (209) 617-5789; scottmalta@sbcglobal.net; **Todd Sheridan**, Pleasant Grove UT; (801) 358-8345; sheridan.todd@gmail.com; **Roger Willis**, Buckeye AZ; (760) 604-6773; willisasoc@aol.com. **Contest Coordinators**: **Tim Attaway**, Chula Vista CA; (619) 427-6392; trattaway@cox.net; **Ellis Hall**, Fair Oaks CA (North); (916) 217-6302; ellisdhall@aol.com; **Howard Kennedy** (Arizona and Utah), Phoenix AZ; (602) 361-8475; bushpilot1443@yahoo.com; **Christopher Sullivan**, Waipahu HI; (808) 953-8863; rccombat808@yahoo.com.

District XI—Alaska, Idaho, Montana, Oregon, Washington

Mike Mosbrooker
Vice President

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Herb Bone, from the Marymoor R/C Club in Redmond, Washington, wrote to me about a display the club put on for a local senior center. Activities such as this further the interests of the hobby in general because they build good will in the community and the seniors have family and friends who will hear about what we are doing.

Herb wrote:

On a sunny day in August, the Marymoor R/C Club put on a display of model airplanes at the local Redmond Senior Center to entertain and to expose others to aeromodeling. Club members displayed a variety of RC models including trainers, sport models, large aerobatic models, and a turbine-powered jet model. The visitors included many senior citizens who were interested in the models, how they worked, and where we flew them. Some visitors had their own "I used to fly models" stories.

The club members were happy to display their models and to talk with the seniors. The center rewarded us with a nice lunch.

The model display was in the same area as a display of nicely restored Ford Model A cars.

Better than new.

Lots of models.

Cliff Filleau's Rascal.

Doug Hale's P-47.

Cliff Filleau's Mini Antic.

Al Watson's King Cat.

Mike Powell's Ugly Stick.

Always say "sir."

Doug Hale's S.E.5a.

Larry Linde's U-Can-Do 3-D.

Bill Wyvel's Ultimate.

Associate Vice Presidents: **Darrell Anderson**, Great Falls MT; d.l.anderson@bresnan.net; **Bryan Batch**, Spokane WA; bbhobbies@qwestoffice.net; **Chuck Bower**, Langley WA; cbower@whidbey.com; **Al Culver**, Wilder ID; al.culver@hotmail.com; **Bruce Harlow**, Myrtle Creek OR; bruceharlowjr@yahoo.com; **Jerry Holcomb**, Vancouver WA; jholcomb@pacifier.com; **Reeves Lippincott**, Wasilla AK; reeves@mtaonline.net; **Chris Rankin**, Bend OR; (541) 593-3294; MissleMist@rocketmail.com; **Gene Stone**, East Wenatchee WA; le.stone@frontier.net; **Al Watson**, Bellevue WA; alenawatson@msn.com. **Frequency Coordinator**: **Phil Tallman**, Medical Lake WA; phillip.tallman@gmail.com. **RC Coordinator**: **Dan Rood**, 629 W. 26th Ave., Spokane WA 99203; drdantempo@yahoo.com. **FF/CL Coordinator**: **Dick Salter**, 3126 184th Ave., SE, Tenino WA 98589-9524; dscljet@msn.com. **Webmaster**: **Chris Rankin**.

AMA Membership Enrollment Form

ACADEMY OF MODEL AERONAUTICS
Enrollment form for 2013 Membership – ONLY ONE FORM PER INDIVIDUAL
5161 E. Memorial Dr., Muncie, Indiana 47302-9050, Fax: (765)741-0057, ***www.modelaircraft.org***

☐ Mr. ☐ Mrs. ☐ Ms. ☐ New Membership ☐ Renewing Member (provide AMA number if known) ____________

First Name ____________ Initial ____ Last Name ____________

Mailing Address (number and street) ____________ Apt. # ____________

City ____________ State ____________ Zip Code ____________

Home tel. (____) ____________ Work tel. (____) ____________ FAX (____) ____________

E-mail ____________ **Date of Birth (Required)** ____________

E-mail has provided AMA with the opportunity to get information to our members in a timely cost-effective manner. AMA on occasion partners with reputable firms to promote products that will benefit both the member and the association. AMA does not trade or sell e-mail or mailing addresses.

☐ Do not use my e-mail address for anything other than official AMA business ☐ Do not use my mailing address for anything other than official AMA business.

MEMBERSHIP CATEGORIES

* All membership categories receive full membership, liability and accident/medical insurance, and competitive privileges

OPEN Adult Memberships - For those 19 or over as of July 1, 2012

P

☐ **OPEN** Membership **$58.00** *Model Aviation* included.

NEW OPEN Members – New AMA members joining during these periods will receive a prorated membership price.
- ☐ April 1st through June 30th **$43.50** ☐ July 1st through September 14th **$29.00**

☐ **OPEN Senior** Membership $48.00 *Model Aviation* included. (For those 65 or over by July 1, 2012).

NEW OPEN Senior Members – New AMA members joining during these periods will receive a prorated membership price.
- ☐ April 1st through June 30th **$36.00** ☐ July 1st through September 14th **$24.00**

☐ **EXTRA** Family Membership **$30.00** *Model Aviation* not included. (Applies to any one adult who resides in the same household as a current OPEN member.)
List current OPEN member's name and AMA number. Name ____________ AMA# ____________

☐ **PARK PILOT PROGRAM* $29.95** *Park Pilot* magazine included. ******Aircraft must not exceed 2 pounds, 60 mph, and may not be powered with an internal combustion engine. * Does not have voting rights, cannot compete in competitions, and has reduced liability insurance and no fire, theft, or accident/medical insurance.
- ☐ Park Pilot members can subscribe to *Model Aviation* magazine - **$48.00**

Free Youth Memberships - For those under 19 as of July 1, 2012

Note: For competition purposes, YOUTH will be categorized as Junior (under 15 by July 1) or Senior (Those 15 by July 1 but not 19)

☐ **FREE YOUTH** Membership ☐ Add *Model Aviation* magazine subscription. One-year $15.00 ☐ Add *Park Pilot* magazine subscription. One-year $10.95
☐ Add Model Aviation and Park Pilot magazine subscription. One-year $19.95

For Non-U.S. Permanent Residents

☐ **AFFILIATE MEMBERSHIP $28.00** insurance only while flying in the USA. *Model Aviation* not included. Membership in National Aero Club (NAC) is required. Please provide copy of NAC membership card/record.
Name of National Aero Club ____________ Expiration Date ____________

☐ **AFFILIATE MAGAZINE SUBSCRIPTION** add **$72.00** for a total of **$100.00**.

Recruiter Information: If you were recruited to join AMA by a member, AMA Club, or hobby shop, please indicate only one and list the name and AMA number (if known) so we can thank them.

☐ Member/Club/Hobby Shop – Name ____________ AMA# ____________

Support AMA Programs

Scholarship Fund	National Site Development	Disaster Relief Fund	Government Relations	Museum Patron Program Membership
☐ $25	☐ $25	☐ $25	☐ $25	☐ $25/Patron
☐ $50	☐ $50	☐ $50	☐ $50	☐ $50/Supporting
☐ $100	☐ $100	☐ $100	☐ $100	☐ $100/Sustaining
☐ Other $ ____	☐ Other $ ____	☐ Other $ ____	☐ Other $ ____	☐ $1000/Life

If you haven't, please consider naming AMA in your will.

☐ Add $6.00 for Model Aviation mailed in a protective covering

Area of Interest: Please select one area of interest.
- ☐ RADIO CONTROL
- ☐ CONTROL LINE
- ☐ FREE FLIGHT
- ☐ ROCKETRY

☐ I compete in FAI activities

METHOD OF PAYMENT

☐ VISA ☐ MasterCard ☐ Check enclosed Amount $________

Card No. __ __ __ __ - __ __ __ __ - __ __ __ __ - __ __ __ __ Exp. Date __ __/__ __

Signature ____________

Note: This waiver means that if I am involved in any claim or suit I will not sue the AMA, Inc. I understand that this waiver does not affect my liability insurance coverage.
"I agree to comply with the AMA Safety Code for all applicable model operations. I understand that my failure to comply with the Safety Code may endanger my liability coverage for any damages or claims so caused. I further understand that written notice of the occurrence of any incident must be immediately provided."
"I am aware that modeling may present hazards to participants and spectators. I exempt, waive, and relieve the Academy of Model Aeronautics, Incorporated (AMA) from all current or future liability for personal injury, property damage, or wrongful death caused by negligence."

Signature of Enrollee ____________

Parent or Guardian of Enrollee under age 18 must also sign ____________

Membership ends each year on December 31, regardless of the date a membership form is received. All membership benefits begin on the day of receipt at AMA Headquarters of a properly completed form and correct dues payment. If a magazine is included with the membership, it begins with the first issue available for the year after a correct current form and payment are received; it expires with the issue printed in December (which is dated January of the following year). Membership rates and insurance limits are those in effect at the time of printing. Actual cost of dues and amount of insurance coverage is subject to change. Any such changes will be noted at the time of membership processing so they may be accepted or not. **Forms received after September 15 will be valid for the remainder of that year and all of the following year.**

AMA National Safety Code

Academy of Model Aeronautics National Model Aircraft Safety Code

Effective January 1, 2011

A. **GENERAL**: A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
   (a) Yield the right of way to all man carrying aircraft.
   (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
   (f) Insure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.
   Exceptions:
   - Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
   - Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.
   - Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).

   (j) Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).
3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:
   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
   (b) An inexperienced pilot is assisted by an experienced pilot.
4. When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. ***RADIO CONTROL (RC)***

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout):
   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
   (b) At air shows or demonstrations, a straight safety line must be established.
   (c) An area away from the safety line must be maintained for spectators.
   (d) Intentional flying behind the safety line is prohibited.
4. RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
5. RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)
6. With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.
7. Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.
9. The pilot of a RC model aircraft shall:
   (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
   (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

C. **FREE FLIGHT**

1. Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
2. Launch area must be clear of all individuals except mechanics, officials, and other fliers.
3. An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. **CONTROL LINE**

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.

Full-Size Plans

No. 1068: SkyTwin: Clark Salisbury's Piaggio-inspired twin pusher design spans 46 inches. $14.00

No. 1067: Travel Air Mystery Ship: Laddie Mikulasko's 1/6-scale 1920s air racer spans 60 inches. $22.00

No. 1066: Borealis: Large, batwing-shaped RC foamie by Ben Lanterman spans 36 inches. $14.00

No. 1065: Tom Neibuhr's Hobo: This 46-inch wingspan CL model is a simple-to-build step up from a Profile $19.00

No. 1064: Bestetti-Nardi BN.1: Fineman's 36 1/2-inch wingspan model was created for FAC Jumbo.......... $9.00

No. 1063: Grumman Goose: 1/12 RC Scale float plane by Kohlmann spans 49 inches and weighs 34 to 40 ounces $12.00

No. 1062: Genie Redux: Jean Pailet's Gas FF model has a 54-inch wingspan for 1/2A, and a 56-inch wingspan for F1J $12.00

Full-size plans list available. A complete listing of all plans previously published in this magazine through no. 1067 may be obtained for $2.00 from the AMA Plans Service, 5151 E. Memorial Dr., Muncie IN 47302; ph: (800) 435-9262, ext. 507; email: ***planservice@modelaircraft.org****. Plans listings, photos, and printable order forms are also available online at* ***www.modelaircraft.org/plans.aspx.***

*Fill in the blanks below with the number(s) of the plans you want to order. **Add a second copy of each plan for half of the original plans cost (limit 1). Please do not include requests or payment for other service with your plans order. Allow one to three weeks for delivery–longer for overseas. NO CODs, please. Prices and Shipping/Handling charges may be subject to change.*

Plan #__________ Plan # __________ Plan # __________ Plan # __________

By Mail: Check or money orders (in U.S. funds drawn on a U.S. bank) are payable to:
AMA
5151 E. Memorial Dr.
Muncie IN 47302

By Email: planservice@modelaircraft.org
By Phone: (800) 435-9262
By Fax: (765) 281-7904

Plan(s) total	$__________
**AMA Members: subtract 10% from total above	(-$__________)
Subtotal	$__________
U.S./Foreign Shipping	$__________
Total Order	$__________

❍ Check ❍ Money Order ❍ MasterCard ❍ Visa   AMA #:____________________

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CARDHOLDER'S SIGNATURE (if faxing or mailing) ______________________________

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Domestic Shipping and Handling Charges*
(All domestic orders are shipped in tubes)

Order	Shipping
Up to $25.99	add $6.00
$26.00 to $50.00	add $9.00
$51.00 to $75.99	add $12.00
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$101.00 or more	add $18.00

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Phone: (800) 435-9262
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Submission Information and Guidelines

About Us

AMA members can learn more about the aeromodeling legacy and are invited to respond for a chance to win prizes! Each installment of "About Us" highlights a company, brand, or organization within our hobby, not only to provide the membership with good information, but also to give you the opportunity to interact and have more fun with the Academy's flagship publication.

If you or your organization would like to be a part of the "About Us" program, contact *MA* Editor-in-Chief Jay Smith at (765) 287-1256, extension 225, or by email at jays@modelaircraft.org.

Aero Mail

If you have a letter to the editor, please submit it to *MA* Editor-in-Chief Jay Smith at 5161 E. Memorial Dr., Muncie IN 47302, or jays@modelaircraft.org.

Worth a Closer Look

In each installment of "Worth a Closer Look" we do our best to bring you new and exciting products from our industry. These write-ups are not press releases but are actually minireviews written by the *MA* staff. In each instance the product or service is actually built, tested, flown, used, etc. to give you a firsthand account of how it performs.

We have found some of these items on our own, but many have been brought to our attention by outside sources. If you have a product or service that you feel might be "worth a closer look," contact *MA* Editor-in-Chief Jay Smith at (765) 287-1256, extension 225, or jays@modelaircraft.org.

Product Spotlight/Modeler's Mall

Manufacturers who want to have their products considered for inclusion in this section should send information and a photo to *MA* Editor-in-Chief Jay Smith at (765) 287-1256, extension 225, or jays@modelaircraft.org.

These reviews are composed from such information and do not imply an endorsement of products.

Focal Point

Proud of your latest building/flying effort? Share it with *MA*'s readers! Send us a glossy color print or digital photo on CD-ROM (minimum 300 ppi) with an appropriate description of the model, and we will publish or post the best submissions.

No emailed photos, laser copies, or photocopies will be accepted. Restrict content to the model with or without the owner/builder. Inappropriate photos will not be published.

Supply your full address (and email address if available) so that interested parties may contact you directly. Send all submissions to *MA* Editor-in-Chief Jay Smith at 5161 E. Memorial Dr., Muncie IN 47302, Attn: Focal Point. Because of this section's popularity, it may be several months before your model is featured.

For more information and Author Guidelines, go to www.ModelAviation.com/authorguidelines.

billp@modelaircraft.org

"Kindness is the language which the deaf can hear and the blind can see." — *Mark Twain*

I've just returned from a visit to the Western Michigan Aviation Academy (WMAA) with District VII Vice President Tim Jesky. It's an amazing facility that provides a charter high school experience with lots of aviation resources available.

One of its best resources is the local AMA chartered club, the Kent Radio Aero Modelers (KRAM) and the club's president, Nikolei Zinsli. Not only does Dean of Aviation George Pavey recognize the value of modeling, the local AMA club knows a great opportunity to share its wealth of talent and experience.

Every Tuesday and Thursday morning KRAM members can be found building and flying with the students at WMAA. Below is a great report from George Pavey on what's going on.

Modeling, as you know, goes beyond airplanes. What the KRAM members are doing is behavior to be modeled!

Energetic Youth Meet Experienced Elderly Statesman

Few things in life compare to watching young adults experience the excitement of aviation while enjoying firsthand the confidence that comes from building and flying a remote control aircraft for the first time. That has been happening in western Michigan with a partnership between the Kent Radio Aero Modelers club and West Michigan Aviation Academy, a charter high school located at Grand Rapids International Airport.

KRAM members have enjoyed more than 40 years as an AMA club and have also been designated as a Gold Leader Club. KRAM enjoys the membership of more than 75 fliers and hosts several popular annual RC events for the community.

WMAA is a relatively new charter high school serving the western Michigan region for students interested in a Science, Technology, Engineering, and Math (STEM) education with an emphasis in the field of aviation.

Newly hired Dean of Aviation at WMAA, George Pavey, a retired Marine officer and naval aviator, established a relationship with KRAM members to help develop an aviation-related activity for interested students.

George worked with Lee Frederickson, AMA District VII associate vice president and KRAM member, to complete his indoctrination into the world of RC flying—experiencing the challenges and joys associated with learning to fly from a new perspective, on the ground! Many KRAM members, including Dan McLaren, Danny Osborn, and Nikolei Zinsli helped.

The "elderly statesmen" of KRAM have begun to share their years of expertise with the eager students of the recently establish David J. Eyde Memorial R/C club for students who attend WMAA.

Through a generous donation from the Eyde family, whose father was unfortunately killed in an aircraft mishap, several Real Flight 6 RC simulator stations, scratch-built aircraft trainers for construction, tools, and several indoor electric airplanes are available. Additionally, many members of KRAM continue to donate their time and related resources.

To highlight the establishment of this Model Aviation Student Club (MASC) and promote interest, 13-year-old national competitor and KRAM member, Jase Dussia, provided an impressive demonstration of flight maneuvers in the WMAA gymnasium. The crowd was in awe of his performance. Jase's father, John Dussia, was the show's commentator.

During the demonstration many KRAM members brought an impressive collection of aircraft for a static display, sparking countless questions from students and faculty.

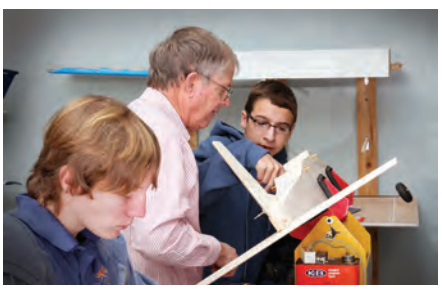
Many KRAM members volunteer an hour of their time twice a week to support the student club, which meets Tuesday and Thursday mornings before school. Sharing their experience and knowledge has been phenomenal! Students have enjoyed indoor flight as well as constructing bigger aircraft in anticipation of the spring flying season.

Student club members have been eager and receptive, while KRAM volunteers enjoy the opportunity to share their passion for the sport! Although the relationship between KRAM and WMAA is still new, there is no doubt that it represents a great opportunity to further promote RC flying.

There you go! Look around your club's area and consider the contributions you could make to an area school. Tell an educator about our MASC program and what it's meant to these kids—they're all having a blast.

Fly and have fun!

The Western Michigan Aviation Academy. Photos by Dave Kingma.



gregh@modelaircraft.org

Clearing up some questions pertaining to Class C events

I recently fielded several questions from participants and new CDs regarding the exact meaning and rules surrounding the Class C event. The easiest way to start is to throw in some history to head this discussion.

In the early days of AMA, model aviation was built around competition of all types. It was not considered a Sunday afternoon social affair. Model aviation was created to mirror full-scale aviation for which pushing the envelope was the name of the game, and in reality, many of the early theories of flight and improvements were first tested as models.

Two world wars and several other high-level conflicts later, there's not much of an envelope left for aviation to push. Granted, there's always something new to be learned but the environment now is different from what it was back in the 1940s and 1950s. The past 20 years have seen model aviation evolve from a contest-dominated endeavor to a Sunday flier, social gathering event.

This transition has increased the need for the Class C event classification or non-rulebook type event. This doesn't mean that a C event can't be a contest of some sort, but it truly means the event will not be run according to the official AMA rule book.

In the sanctioning process, the decision of event class is spelled out well—you either use the AMA rule book or you don't. If you *do* sanction a rule book event, there's still room to transgress from the rule book, but the changes must be listed on the sanction form and be approved by the Technical Director (me) before the meet, and the deviations must be advertised early so that all who plan to attend are aware of the changes and can be prepared.

The Class C event is an entirely different animal. Most are social gatherings, but some can also be contests such as fun-flys or mock Scale. Combat and club Pylon Racing have become popular. These events have rules and some may come from the AMA rule book, but are not required to. The CDs of these events and Class C events are urged to advertise or post the rules they will be using well in advance of the event, but it is not a requirement.

The C event is also given the same 100-mile-radius protection area as the A and AA events. Class C events can also have Traditional Event status the same as A and AA, with the only stipulation being the event must be sanctioned at least six months in advance of the event's date. These two items can be found in the Competitions section of the *AMA Membership Manual*.

Keep in mind the next time you attend a Class C contest, that you're going to a social gathering that may happen to include a little friendly competition and realize the rules might be quite arbitrary.

Keep it all in perspective and have fun.

FLYING

FEBRUARY

AZ - Arizona

EVENT CANCELED 2/6/2013 - 2/10/2013 – Surprise, AZ (C) DESERT JET STORM 2013. Site: Club Field. Chris Balling CD PH: 208-317-5364 Email: ccmb159@aol.com. Visit: www.speedworldrcf.com. **THIS EVENT CANCELED** Sponsor: SPEEDWORLD R.C. FLYERS

2/16/2013 - 2/17/2013 – Florence, AZ (AA) SUN LAKES TUCSON IMAC. Site: Club Field. Rusty Fried CD PH: 602-540-3991 cell Email: completemarine02@gmail.com. Sponsor: SUN LAKES MODEL AIRPLANE CLUB (SLRCC)

2/16/2013 – Tucson, AZ (A) ED AND HELEN MEMORIAL STUNT CONTEST. Site: Christopher Columbus Park. James Hoffman CD PH: 480-897-0630 Email: windswept4@cox.net. Event 322(JSO). Also old time stunt, classic stunt and super 705 stunt combined. No skill classes. Sponsor: CHOLLA CHOPPERS MAC

2/16/2013 - 2/17/2013 – Tucson, AZ (C) TRCC ANNUAL ELECTRIC FLY IN SWAP MEET. Site: TRCC Field. Alan Mosher CD PH: 520-885-8874 Email: alanlmosher@aol.com. Visit: cmandec.com/trcc. Registration at 0800, fly at 0900 both days. Food available at site. Camping ok, no hook ups. No charge for swap meet. Pima Air Museum nearby. Sponsor: TUCSON RADIO CONTROL CLUB INC

2/17/2013 – Eloy, AZ (A) PRESIDENTS CUP. Site: S Toltec Rd. Victor Lichtenberg CD PH: 253-857-7952 Email: jlich1235@aol.com. Sponsor: TUCSON FREE FLIGHT MODEL AIRPLANE CLUB

2/23/2013 - 2/24/2013 – Phoenix, AZ (AA) SUN VALLEY FLIERS RC CHAMPIONSHIP. Site: Club Field. Rusty Fried CD PH: 602-540-3991 cell Email: completemarine02@gmail.com. Sponsor: SUN VALLEY FLIERS

2/23/2013 - 2/24/2013 – Wittman, AZ (A) PHOENIX QM CLASSIC. Site: Speedworld. James Allen CD PH: 480-688-4789 Email: jamesea1@earthlink.net. Visit: www.speedworldrcf.com. Event 422(JSO). Come enjoy the warm Phoenix winter and the biggest and best QM pylon race there is. Sponsor: SPEEDWORLD R.C. FLYERS

2/23/2013 - 2/24/2013 – Yuma, AZ (D) 2012 YUMA MODEL AIR SHOW. Site: Club Field. Palmer Hundtoft CD PH: 928-502-0386 Email: pl4rv@yahoo.com. Sponsor: YUMA AEROMODELERS

CA - California

2/22/2013 - 2/24/2013 – Lake Balboa, CA (A) BASIN Q40 CLASSIC. Site: Apollo Eleven. Robert Smith CD PH: 661/298-2614 Email: flynbs@socal.rr.com. Sponsor: SAN FERNANDO VALLEY RC FLYERS, INC

2/23/2013 – Irvine, CA (C) DAWN PATROL WESTERN NATIONALS. Site: OCMA Black Starr Field. James Reed CD PH: 714-816-8942 Email: tuggy007@earthlink.net. Visit: info@dawnpatrolnational.com. California premier WWI Dawn Patrol and Golden Era fun fly. This is a non-competition fun fly event. Trophies in categories. Food and beverages on site. Add'l info at info@dawnpatrolnational.com Sponsor: CA SCALE MODELERS ASSOCIATION

FL - Florida

2/5/2013 - 2/7/2013 – Zephyrhills, FL (C) SAM RC WINTER FLY. Site: Club Field. Fred Mulholland CD PH: 813/962-7020 Email: fredbarb1@verizon.net. Sponsor: ZEPHYRHILLS CAN-AM FLYERS

2/8/2013 - 2/9/2013 – Punta Gorda, FL (C) VRCS FELLOWSHIP GATHERING. Site: Charlotte County. Ron Morgan CD PH: 239-470-3809 Email: rem8435@embarqmail.com. Visit: www.charlotterc.com. Sponsor: CHARLOTTE RC SOCIETY

2/15/2013 - 2/17/2013 – Alachua, FL (A) 6TH ANNUAL SAN FELASCO LAUNCH GLIDER FESTIVAL. Site: San Felasco Hammock Preserve. David Forbes CD PH: 352-375-2609 Email: forbows@bellsouth.net. Visit: sanfelascosoaring.com.

2/15/2013 - 2/16/2013 – Deland, FL (C) 24TH ANNUAL WINTER FESTIVAL OF GIANTS. Site: 1500 Matt Fair Blvd. Jessie James CD PH: 386-734-6321 Email: jjames308@hotmail.com. Visit: www.delandrcclub.com. Sponsor: DELAND RC CLUB

2/16/2013 - 2/17/2013 – Pensacola, FL (A) PEFT WINTERCOUPE. Site: Navy Site 8a. Paul Grabski CD PH: 850-725-7395 Email: grab3939@cox.net. Visit: www.pensacolafreeflight.org. Sponsor: PENSACOLA FREE FLIGHT TEAM

2/16/2013 - 2/17/2013 – Sebring, FL (AA) HIGHLAND COUNTY PATTERN CLASSIC. Site: Highlands RC Club Inc. Lawrence Odom CD PH: 863-646-0172 Email: lcodomjr@verizon.net. Visit: lcodomjr@verizon.net. Highland RC club welcomes you to its first AMA turn around pattern contest. Classes are 401-404 and 406 JSO on all classes. Camping ok but no hook ups. There is power for charging batteries. Location 27.504617255842273, -81.3136124610900 Sponsor: HIGHLANDS RC CLUB INC

2/23/2013 - 2/24/2013 – Ocala, FL (C) OCALA ELECTRIC FLY. Site: 1020 Se 110 St. Gary Doeren CD PH: 920.435.2692 Email: grdoeren@aol.com. 50x600 paved runway. 100x1500 grass strip. $10 landing fee, prem. camping, no hook up. Sponsor: OCALA FLYING MODEL CLUB

2/27/2013 - 3/2/2013 – Lakeland, FL (C) FLORIDA JETS. Site: Lakeland Airport. Frank Tiano CD PH: 863-607-6611 Email: frank@franktiano.com. Three hundred Jets, Demos, Maunfacturers area. 6 flight lines, awards, one of the most awesome flying sites on the planet! Sponsor: IMPERIAL RC CLUB INC

IA - Iowa

2/16/2013 - 2/17/2013 – Cedar Falls, IA (C) E-XPO IN THE UNI DOME. Site: Uni Dome. Stan Sweet CD PH: 319.277.3584 Email: sweet@cfu.net. Visit: www.expodome.org/. Indoor electric fly-in for all types of r/c electric 3D, park flyers, micros and helicopters. Sat 9AM-8PM, Sun 9AM-5PM. Pilot air show for the public at 1PM. For fees and more info see www.expodome.org or contact CD. Preregistration encouraged. Sponsor: BLACK HAWK RC PILOTS INC

NC - North Carolina

2/9/2013 – Trenton, NC (C) EASTERN CAROLINA SWAP & FLY. Site: Jones County Civic Center. Carl Zavalney CD PH: 910-347-1264 Email: carlzavalney@yahoo.com. Swap meet & Indoor fly Feb 9th 2013. Jones Co Aeromodelers. New river modelers. Early reg. tables $15. Fly $10, $15 and $20 day of event. Model airplane show 3 classes. Sport, Scale and warbird. Check payable to New River Modelers. Sponsor: JONES COUNTY AEROMODELERS

TX - Texas

2/23/2013 – Dayton, TX (A) JETERO RC 16TH ANNUAL FUN FLY. Site: Fm 686/Cr 623. Horrace Cain CD PH: 281-923-0599 Email: cainhd@aol.com. Visit: www.jetero.com. 4 round fun events to be announced about Feb 10. Plan that final events/may get messy. Pilots plan to help with logistics of final event. Prizes, food ect to be announced 9AM. Sponsor: JETERO RC CLUB INC

WA - Washington

2/7/2013 - 2/10/2013 – Monroe, WA (C) 2013 NW MODEL HOBBY EXPO. Site: Evergreen State Fairgrounds. Ronald Swift CD PH: 425-788-6045 Email: ronswift@cablespeed.com. Visit: www.nwmhe.com. Fans of radio controlled cars, planes and boats will want to check out the Northwest Hobby Model Expo at the Evergreen State Fairgrounds Monroe Feb 8-10. Lots to see and do for the whole family. Hundreds of bargains to be had and even an Auction! This is the biggest hobby trade show in the Pacific Northwest. Visit http://www.nwmhe.com for details Sponsor: BARNYARD BUZZARDS MODEL AIRPLANE CLUB

MARCH

AL - Alabama

3/15/2013 - 3/17/2013 – Bessemer, AL (C) CENTRAL ALABAMA HELI FLY IN. Site: 7477 Dickey Springs Rd. David Harkey CD PH: 205-329-8031 Email: dharkey55@bellsouth.net. Sponsor: BIRMINGHAM HELICOPTER MODELERS

AZ - Arizona

3/1/2013 - 3/3/2013 – Mesa, AZ (AA) GUNSMOKE SCALE MASTERS QUALIFIER. Site: Superstition Air Park. Austin Goodwin CD PH: 480.357.1816 Email: n4351x@aol.com. Visit: www.oeaf.org. U.S. Scale Masters qualifier. Expert, Team scale, Advanced, Pro Am Pro and Pro AM Sportsman. Static judging at field March 1st. Superstition Air Park on Levee Dr. 1/2 mi north of Brown Rd. on Merridian Rd. GPS N33 26.563 W 35.308 Sponsor: ONE EIGHTH AIR FORCE

3/8/2013 - 3/10/2013 – Tucson, AZ (C) TUCSON JET RALLY. Site: Timpa. Debra Sherrow CD PH: 520-744-0633 Email: wclays@msn.com. Visit: www.timpa.com. Turbine, ducted fan, and electric ducted fan only. No props. All aircraft must fly the pattern, taxi out and back. No hand launch aircraft. Behind the scences tours. Please donate to the Ryan Sherrow Scholarship fund c/o Academy of Model Aeronautics. Sponsor: TUCSON INTERNATIONAL MODELPLEX PARK ASSN

3/19/2013 - 3/23/2013 – Tucson, AZ (C) VINTAGE STUNT CHAMPIONSHIPS XXIV. Site: Chirstopher Columbus Park. Louis Wolgast CD PH: 520-749-1812 Email: daytonalou@aol.com. Visit: www.ccmaconline.org. Sponsor: CHOLLA CHOPPERS MAC

3/22/2013 - 3/24/2013 – Phoenix, AZ (C) 17TH ANNUAL PHOENIX FUN FLY. Site: Cave Buttes Rc Field. Eric Stevens CD PH: 480-502-6745 Email: e_stevens@cox.net. Visit: www.phoenixfunfly.com. Come join us for some great flying. Night flying Saturday night. Helicopter only. No on site camping Sponsors: ARIZONA ROTARY MODELERS SOCIETY, SUN VALLEY FLIERS

3/23/2013 - 3/24/2013 – Apache Junction, AZ (AA) CACTUS CLASSIC. Site: Club Field. Rusty Fried CD PH: 602-540-3991 cell Email: completemarine02@gmail.com. Sponsor: EAST VALLEY AVIATORS INC

CA - California

3/23/2013 – Moreno Valley, CA (C) AMERICAN DIABETES ASSOCIATION FUNDRAISER FUN FLY. Site: Gilman Springs Flyers Airpa. Ronald Cherry CD PH: 951-675-2091 Email: roncherry@ca.rr.com. Visit: www.gilmanspringsrcflyers.com. Please join us for our inaugural one day fundraiser fun fly event for a great cause. $10 pilots landing fee (Children under 17 fly FREE). Additional donations ($10 suggested) are welcome. Proceeds will be given to the American Diabetes Association. Sponsor: GILMAN SPRINGS RC FLYERS

FL - Florida

3/1/2013 - 3/3/2012 – Nokomis, FL (C) 13TH ANNUAL WINGS OVER VENICE. Site: Sarasota Central County Waste. Daniel Williams CD PH: 570.301.7753 Email: danderan2@gmail.com. Co-CD Jack Butler 941-423-7037. '80 Mono, '60 Bi Plane, a Big Bird event. RV camping- No hookups/$5.00 per night. Sponsor: R/C FLIERS OF VENICE INC

3/7/2013 - 3/9/2013 – Glen St Mary, FL (C) DAWN AT THE GLEN. Site: Sr 125 N 5 Mi. Rod Gier CD PH: 321.258.9985 Email: mad-bomber@mindspring.com. Dawn Patrol at the Glen 60/80 rule warbirds prior to 1919 $20 landing includes Friday night dinner. Camping on site limited hookups. Sponsor: SHADETREE MINITURE AIRCRAFT ASSOC #25

3/8/2013 - 3/10/2013 – Palmetto, FL (C-Restricted) 22ND ANNUAL DICK COLE MEMORIAL FLY IN. Site: Mcrc Club. James Holloman CD PH: 941-224-7009 Email: jhollo6540@aol.com. Visit: manateerc.com. 500x100 grass runway, limited RV parking with electric/water hook ups, restrooms, food and beverages on site. No turbine powered aircraft. Noise limit 96dbs at '9, Reg fee $15.00. Directions: I75 to exit 224, take US 301 N to Eric Rd, Turn L on Erie Rd to 69th Street, Turn L on 69th and follow signs to entrance on your right. Sponsor: MANATEE COUNTY RADIO CNTRLRS

3/15/2013 - 3/17/2013 – Cocoa, FL (C) SPACE COAST AEROTOW. Site: Space Coast Aeromodeling Park. Kris Van Nostran CD PH: 321.514.7208 Email: k.van@earthlink.net. Visit: www.irks.org. Sponsor: INDIAN RIVER KONTROL SO INC

3/16/2013 - 3/17/2013 – Cape Coral, FL (C) GATHERING OF THE GIANTS. Site: Seahawks Airpark. Edward Gamils CD PH: 941-575-8047 Email: egamils@hotmail.com. Visit: www.rseahawks.org. Sponsor: CAPE CORAL R/SEA HAWKS

3/16/2013 - 3/17/2013 – Punta Gorda, FL (AA) IMAC 2013 SOUTHWEST CHALLENGE. Site: Club Field. James Deutsch CD PH: 941-916-2476 Email: c1943x@comcast.net. Visit: www.csms-rc.org. 8910 Kings Highway, Arcadia Florida 35842 Sponsor: CHARLOTTE SPORT MODELERS SOCIETY

3/22/2013 - 3/24/2013 – Jacksonville, FL (C) 3D BOWL. Site: Club Field. Andrew Griffith CD PH: 904-993-4956 Email:barracudahockey@aol.com.Visit:www.jaxrc.com. 3D open flying with the Florida Freestyles Aerobatics Assc! All sizes welcome. Paved runways, covered pavillion, modern restrooms and facilities. Night flying. Smoked BBQ lunch included in pilot reg fee. Campers ok, no hook ups. Raffle prizes. Lots of fun! Sponsor: RC CLUB OF JACKSONVILLE

LA - Louisiana

3/22/2013 - 3/23/2013 – Crowley, LA (C) CAJUN HELI FEST. Site: Contact Eric For Directions. Eric Babineaux CD PH: 337.344.4408 Email: cajunscale@gmail.com. Visit: www.ramsrcflyers.com. Landing fee $30 this includes Saturday dinner. RV and trailers welcome, no hook ups. AMA required sponsor: Rice Aero Modelers Society and Starwood Scale Models. Sponsor: RICE AREA MODELERS SOCIETY

NM - New Mexico

3/16/2013 - 3/17/2013 – Alamogordo, NM (AA) SOUTHERN NEW MEXICO PATTERN CHALLENGE. Site: Club Field. Mark Komsa CD PH: 575-491-1032 Email: komsa.mark@gmail.com. Visit: www.alamogordorcers.com. Events 401-406 (JSO) Any AMA legal aircraft allowed in Sportsman. Entry fee $30, $20 for Sportsman. Free BBQ lunch for contestants. Free RV parking w/electric, water. Field open for practice on Friday. Contest available on NSRCA/Club website. Proof of AMA required. Sponsor: ALAMOGORDO RCERS

NV - Nevada

3/8/2013 - 3/10/2013 – Las Vegas, NV (AA) FABULOUS LAS VEGAS HELI FUN FLY. Site: William Bennet Field. William Roper CD PH: 702.364.1755 Email: lvrc@rockcopter.com. Visit: rockcopter.com. This is a helicopter fun fly. We have special events for everyone. Bring your 450 size helicopter for the obstacle course. If you are new please come out and try the novice events. Visit: icrcc.org Event is sponsored by Las Vegas Radio Control Club. Sponsor: LAS VEGAS RADIO CONTROL CLUB

SC - South Carolina

3/23/2013 – Gaston, SC (C) CONGAREE FLYERS 5TH ANNUAL HELICOPTER FLY IN. Site: Club Field. John Morgan CD PH: 803-445-2325 Email: rcavi8or@gmail.com. Visit: www.congareeflyer.com. Great fun, food and above all, Fellowship! 60x600 Grass runway, Lots of overlay area. Open flying. Prizes, 50/50. Swap and shop ok. $25 landing fee includes lunch and possible Friday night flying. $15 if we do not fly Friday night. Watch for news on our website. No channel 20 please. Sponsor: CONGAREE FLYERS

TX - Texas

EVENT CANCELED 3/29/2013 - 3/30/2019 – Tyler, TX (C) TYLER MODELERS CLUB HELI FUN FLY. Site: North Side Park. Sam Patriacca CD PH: 903-483-1195 Email: chilimac45@hotmail.com. Visit: www.Tylermodelers.com. *****THIS EVENT HAS BEEN CANCELED***** Heli pilots are invited for 2 days of fun. Landing fee $20. Overnight camping, no hook ups. Lunch available. Sponsor: TYLER MODELERS CLUB

APRIL

AL - Alabama

4/19/2013 - 4/21/2013 – Huntsville, AL (C) HUNTSVILLE HELI FLYERS ANNUAL FUN FLY. Site: Club Field. Troy Blackwell CD PH: 256.723.5622 Email: teeroy@nehp.net. Visit: www.huntsvilleheliflyers.org. 3 great days of fun filled flying and socializing. Lots of prizes. Many accomplished and well known pilots. Sponsor: HUNTSVILLE HELI FLYERS

AZ - Arizona
4/6/2013 - 4/7/2013 – Eagar, AZ (A) ROUND VALLEY DOME INDOOR. Site: Round Valley Dome. Steve Riley CD PH: 505 615 8112 Email: steveriley@cableone.net. Sponsor: PHOENIX MODEL AIRPLANE CLUB

4/13/2013 - 4/14/2013 – Mesa, AZ (C-Restricted) WINGS OVER ARIZONA. Site: Superstition Airpark. Paul Goldsmith CD PH: 480-588-6941 Email: wiinger@aol.com. Visit: azmodelaviators.com. Superstition Airpark Levee Dr & Meridian Rd Mesa AZ. IMAA Guidelines apply to all aircraft. Food vendors Sat/Sun. Pizza & wings for pilots, crew and help Sat. PM. Pilots Parking included in $20 entry fee. No overnight camping. Flood restrictions . RV parking 1/2 mile away no hook ups. Security on site for trailors. Friday is open flying for early arrivals. Sponsor: ARIZONA MODEL AVIATORS

CA - California
4/13/2013 – Livermore, CA (C) LFE FUN FLY. Site: 4455 Raymond Rd. Gary Oehrle CD PH: 925.449.9291 Email: goehrle@comcast.net. Visit: www.lferc.com. Gas, Glow, Electric Solo and team events. BBQ lunch provided. $20 entry fee. Sponsor: LIVERMORE FLYING ELECTRONS

4/27/2013 - 4/28/2013 – Elmote, CA (AA) BOB PALMER MEMORIAL. Site: Whitter Narrows. Warren Walker CD PH: 909-476-0442 Visit: kotrc.org. Please come celebrate the life of Bob Palmer. This is always a great contest with lots of prizes and good food. We will also have a tribute to Bobs friend Bill Heyworth. Sponsor: KNIGHTS OF THE ROUND CIRCLE

FL - Florida
4/6/2013 – Dunnellon, FL (C) 13TH ANNUAL BIG BIRD FLY IN. Site: Rainbow Air Park. George Derewenko CD PH: 352-270-3307 Email: gderewenko@tampabay.rr.com. Visit: www.tricountycclub.homestead.com. Min wing span 80' mono, 60' biplane. Pilot prizes, landing fee $5. Spectator choice award. Spectator parking $2 donation. Rainbow cafe will be open for lunch. Bring your BIG BIRD, lawn chair and appetite. Sponsor: TRI-COUNTY RC CLUB

4/13/2013 - 4/14/2013 – Palm Bay, FL (AA) APRIL FOOLS SPRING OPENER. Site: Club Field. Rex Hinson CD PH: 352.344-5931 Email: rexh@tampabay.rr.com. Sponsor: FLORIDA MODELERS ASSOCIATION

4/20/2013 - 4/21/2013 – Land O Lakes, FL (AA) 17TH ANNUAL SPRING CLASSIC. Site: Club Field. Gregory Baggerly CD PH: 813-310-3182 Email: gregbaggerly@msn.com. Visit: www.mini-iac.com. Sponsor: BAY CITY FLYERS, INC.

4/20/2013 – Marianna, FL (C) FLYIN. Site: Marianna Model Airpark. Francis Kellison CD PH: 850.526.3161 Email: franciskellison@embarqmail.com. Visit: chipolarcaviators.com. $5 landing fee primitive camping, concessions on site no turbine 9:30AM TO 4PM Sponsor: CHIPOLA RC AVIATORS

GA - Georgia
4/6/2013 - 4/7/2013 – McDonough, GA (AA) D2 VS D3 SHOOTOUT. Site: Henry County RC Club. Victor Diaz CD PH: 404.263.7674 Email: vquick_500@hotmail.com. Visit: www.henrycountyrc.com. 4/6-4/7 D2 vs D3 Shootout 3rd Annual RC Pattern shootout 401-404 and 406 $35 entry fee includes Rib dinner on site Sat afternoon. Come down and enjoy this event. Sponsor: HENRY COUNTY RC CLUB

4/13/2013 – Gray, GA (C) DIXIE AEROMASTERS SPRING FLY IN. Site: Commissioners Field. Jon Spaller CD PH: 478-742-9367 Email: jonspaller@hotmail.com. Visit: www.dixieaeromasters.com. Sponsor: DIXIE AEROMASTERS INC

IA - Iowa
4/13/2013 – Hiawatha, IA (C) CEDAR RAPIDS CHARITY INDOOR FUN FLY. Site: Eastern Sports Complex. Lloyd Swanson CD PH: 319-373-0947 Email: iflyrc@mchsi.com. In memory of Jonathan Lloyd Ramsey, the Rockwell Collins Model Aviators in partnership with the Cedar Rapids Titans presents the "Cedar Rapids Charity Indoor Fly in" to benefit the Disaster dogsof Iowa organization. Saturday 4/13/2013 from 8AM-5PM. Sponsor: ROCKWELL COLLINS MODEL AVIATOR

KY - Kentucky
4/13/2013 – Winchester, KY (C) CLARK COUNTY RC BARNSTORMERS INDOOR FUN FLY. Site: Winchester Ymca Gym. Robert Strosnider CD PH: 859-744-0019 Email: bobstro@bellsouth.net. Visit: www.ccbarnstormers.org. All pilots must wear gymshoes. Landing fee $7. Non IC aircraft only. Winchester YMCA Gym is located at 645 Westmeade Dr. Sponsor: CLARK COUNTY R/C BARNSTORMERS

LA - Louisiana
4/6/2013 – Berwick, LA (C) WARPS RC SPRING FLY IN. Site: Club Field. Pete Lawton CD PH: (985)519-5245 Email: lawton.pete@yahoo.com. Visit: warpsrcclub.com. Any size flys. Concession will be available. Landing fee $15. Campers welcome, no hook ups. Sponsor: WILLIAMS AEROMODELER RC PILOT WARPS

4/27/2013 – Ethel, LA (C) MOODY FIELD FLY IN. Site: 7396 Battle Rd. Mel Douglas CD PH: 225-654-2255 Email: laemmle1@cox.net. Moody field Big Bird 80" Monoplane 60" Bipe . $ 15 landing fee includes lunch. "Come out and pass a good time" This is a one day event. Sponsor: MOODY FLYING FIELD CLUB

MS - Mississippi
4/27/2013 – Jackson, MS (C) MAGNOLIA CLASSIC. Site: Buddy Butt Park. Oscar Tissue CD PH: 601-924-5703 Refreshments. Pilots drawing. registration 8AM. Landing fee $15; includes meal. Sponsor: CAPITOL CITY RADIO CONTROL

NC - North Carolina
4/27/2013 – Elm City, NC (C-Restricted) TAD DIETRICH MEMORIAL FLY IN. Site: Town Creek Field. A Gentry CD PH: 252-343-3961 Email: wn4z462@centurylink.net. Sponsor: TARHEEL R/C FLYERS

NV - Nevada
4/4/2013 - 4/6/2013 – Las Vegas, NV (AA) WAR BIRDS OVER LAS VEGAS. Site: William Bennett Flying Field. William Roper CD PH: Visit: www.warbirdsoverlasvegas.com. Vietnam & earlier era. Min. mono wingspan 55", multiwing 50". Paved runway 720x100. Food, vendors. Friday night steak boanaza w/ guest speaker. Full scale fly bys. Secure over night tents, pilot prizes. An event to honor our men and women in Military Aviation. For more info, please contact William Hope. Ph: 410-533-3405 Email: bhope22@gmail.com. Sponsor: LAS VEGAS RADIO CONTROL CLUB

OH - Ohio
4/14/2013 – Kent, OH (AA) CFFS ANNUAL INDOOR CONTEST. Site: KSU Field House. Michael Zand CD PH: 216-524-3480 Email: mcz1122@hotmail.com. Field house open 7AM- 10PM. Cat II Record trials may be flown all day long. AMA contest events 8AM-4PM. Glider 8AM-11AM FAC 9AM-4:15PM. Sponsor: CLEVELAND FF SOCIETY

SC - South Carolina
4/6/2013 – Rembert, SC (C) SPRING FLING AT THE SOD FARM. Site: Club Field. Steve Livingston CD PH: 803-315-6975 Email: silver@sc.rr.com. Sponsor: LEXINGTON AIRCRAFT RADIO KONTROL SOCIETY LARKS

4/13/2013 – Gaston, SC (C) CONGAREE FLYERS ANNUAL SPRING FLY IN. Site: Club Field. John Morgan CD PH: 803-445-2323 Email: rcavi8or@gmail.com. Sponsor: CONGAREE FLYERS

4/13/2013 – Piedmont, SC (C) FIRETOWER FLYERS ANY SIZE WARBIRD. Site: Club Field. Joseph Vaughn CD PH: 864.859.2788 Email: jovaunr@aol.com. Visit: www.firetowerflyers.com. Open to any size Warbirds. Grass runway 100-900. Landing fee $15 includes lunch. Clean restrooms. Electricity available. Lunch available for non flyers. Concessions, prizes, camping and RV, no hook ups. Spectators welcome. Pilot meeting 9AM Sponsor: FIRETOWER FLYERS

4/20/2013 - 4/21/2013 – Green Sea, SC (AA) 17TH ANNUAL GRAND STRAND PATTERN CLASSIC. Site: Green Sea Airport. Marvin Marozas CD PH: 843-546-8954 Email: mfmarozas@hotmail.com. Visit: www.coastalaeromodelers.org. Beautiful flying site! No Hook ups. Field open for practice on Friday Sponsor: COASTAL AERO MODELERS

TN - Tennessee
4/27/2013 – Henderson, TN (C) SPRING FLY IN. Site: Club Field. Jim Feirick CD PH: 901.784.3837 Email: hollyfieldg@bellsouth.net. Sponsor: MAGIC VALLEY AIR FORCE

TX - Texas
4/5/2013 - 4/7/2013 – Austin, TX (C) AUSTIN HELI FEST. Site: 8705 Lindell Ln. Joe Doran CD PH: 512.431.0002 Email: joe@jbdww.com. Visit: www.austinrc.org. RC Helicopter event. Come out to fly and watch some of the pros fly. Sponsor: AUSTIN RC ASSOCIATION

4/13/2013 – Beaumont, TX (C) BRCC SPRING FUN FLY. Site: Club Field. Leslie Hatton CD PH: 409-466-2575 Email: lhatton@swbell.net. Visit: www.brcc.ws. Open to all AMA legal models. Open flying with a couple of games for fun. Landing fee $20. Lunch provided for donations. Door and raffle prizes. Sponsor: BEAUMONT RC CLUB

4/16/2013 – Georgetown, TX (AA) GEORGETOWN PATTERN CLINIC CONTEST. Site: Gama Field. Rene Grebe CD PH: 512-330-4485 Email: renegrebe39@gmail.com. Visit: www.gamarc.org. Pilot meeting at 9AM-Clinic starts 9:15AM. Flying after lunch. $20 registration fee includes lunch. Sponsor: GEORGETOWN AERO MODELERS ASSN

4/18/2013 - 4/21/2013 – Austin, TX (C) 3D HOBBY SHOP TEXAS FLY LOW IN. Site: 8705 Lindell Ln. Doug Nelle CD PH: 512-925-0064 Email: knelle@swbell.net. Visit: austinrc.org. 3DHS and 3DRC forums present the first stop for the 2013 Fly Low In Series. Hosted by the Austin RC Association. No pilots fee, awesome 3DHS raffle. Light towers, Saturday flight demos, free pilot dinners Friday night. $20 steak dinner Saturday night. Electric RV hook ups $10 per night. Visit austin rc.org for more details. Sponsor: AUSTIN RC ASSOCIATION

4/19/2013 - 4/21/2013 – Benbrook, TX (C) FORTH WORTH THUNDERBIRDS HELI SPRING FEVER. Site: Forth Worth Thunderbird Field. Will Campbell CD PH: 817.297.2454 Email: wcampbell@maseratiusa.com. Visit: www.fwthunderbirds.org. Forth Worth Thunderbirds are proud to announce the return of a New Heli Fun Fly at our new facility on the south side of Benbrook Lake. Everyone from beginner to the Pro are welcome to come experience a wonderful new field and an excellent event. Sponsor: FORT WORTH THUNDERBIRDS R/C ASSOCIATION, INC

4/20/2013 – Crosby, TX (C) PROP NUTS ANNUAL FLEA MARKET AND FLY IN. Site: Club Field. Taswall Crowson CD PH: 281-474-9531 Email: tcrowson@flash.net. Visit: www.propnuts.com. large grass field, lunch concessions on site, nearby motels and restaurants. RVs welcome, no hook ups. Early arrival Friday ok, landing and sellers fee tbd. Map to field on website. Sponsor: PROP NUTS RC CLUB

4/20/2013 – Tyler, TX (C) TMC ANNUAL ELECTRIC FUN FLY. Site: Northside Rc Air Park. Sam Patriacca CD PH: 903-483-1195 Email: chilimac45@hotmail.com. Visit: www.tylermodelersclub.org. All electric (NO Heli) are welcome. 2 prize winning contests, otherwise open flying. Landing fee $15. Lunch $6. Raffle for planes, transmitter. Sponsor: TYLER MODELERS CLUB

4/25/2013 - 4/28/2013 – Texarkana, TX (C) 22ND ANNUAL TEXARKANA BIG BIRD. Site: Rauel Stroman Field. Gary Strickland CD PH: 903-277-2063 Email: bosshawg43@aol.com. Visit: www.trcfc.org. Sat will be restricted to 1/4 scale or larger. Sun is open flying. Concessions on site with evening meal provided to all registered pilots. Registration $25 for weekend. Overnight campers welcome, no hook ups. Sponsor: TEXARKANA RC FLYING CLUB

4/27/2013 - 4/28/2013 – Crowley, TX (C-Restricted) FT WORTH THUNDERBIRDS SENIOR PATTERN CONTEST. Site: Club Field. Kenneth Knotts CD PH: 469-441-6761 Email: kenknotts826@gmail.com. Awards for 1st, 2nd and 3rd in Novice, Sportsman and Expert. See seniorpattern.com for all rules. AMA membership required. Start 10AM Sponsor: FORT WORTH THUNDERBIRDS R/C ASSOCIATION, INC

4/27/2013 - 4/28/2013 – New Waverly, TX (C) BARNSTORMERS 29TH ANNUAL BIG BIRD. Site: Ray Brickhouse Field. Jimmy Moore CD PH: 832-457-6798 Email: jmoore@weirseaboard.com. Visit: www.tri-countybarnstormers.com. Landing fee $15, includes lunch. 60" biplane, 80" monoplanes. Large covered pavilion and spectator deck. 40 acre site with snack bar, picnic area, restrooms and showers. RV parking, no hook ups. Motels and restaurants nearby. Sponsor: TRI-COUNTY BARNSTORMERS

VA - Virginia
4/27/2013 - 4/28/2013 – Fredericksburg, VA (AA) MASON DIXON SHOOTOUT. Site: Farcc. Gary Valenzuela CD PH: 703-967-9679 Email: gary_valenzuela@me.com. Visit: www.fredericksburgrc.com. Sponsor: FREDERICKSBURG AREA RC CLUB

NON-FLYING
FEBRUARY

AL - Alabama
2/2/2013 – Muscle Shoals, AL (E) QCRCC SWAP MEET. Site: North Alabama State Fairground. Eddie Krieger CD PH: 256-648-1425 Email: krieger@hiwaay.net. Hours 8AM-? Admission $5. Reserved tables $12, @ door $15. Consessions, Door prizes and raffles. Mail reservations with check payable to QCRCC 3477 Locker Ln Florence, AL 35634. Sponsor: QUAD CITIES RADIO CONTROL

AR - Arkansas
2/16/2013 – Texarkana, AR (E) TEXARKANA. Site: Four States Fair Grounds. Gary Strickland CD PH: 903-278-5703 Email: bosshawg43@aol.com. Texarkana RC Swap meet and auction. Sat, Feb. 16, 2012 at the Barbara Gleboff Fine Arts Bldg. 9AM Auction begins at 6PM. Reserve table $10 at txkswap@gmail.com. For radio control airplanes, cars, boats, etc. trcfc.org Sponsor: TEXARKANA RC FLYING CLUB

FL - Florida
2/2/2013 – Sebring, FL (E) HIGHLANDS RC SWAP MEET. Site: Hrcc Field. James Welborn CD PH: 863-382-2544 Email: welborn@strato.net. Gate opens at 8AM sharp. Adm $5 per seller or buyer. Family enters at no cost with paid buyer or seller. Bring your own table. Event ends at noon. See www.highlandsrc.org/flingfield.html for directions. Sponsor: HIGHLANDS RC CLUB INC

2/9/2013 – Cape Coral, FL (E) SWAP MEET & AUCTION. Site: Faith Presbyterian Church. Bunky Bruce CD PH: Email: bfd50md@aol.com. Always popular Annual Swap meet/Auction 8AM-11AM. Faith Presbyterian Church-4544 Coronado Pkwy, Cape Coral, FL. Admission $5/Table $10 ea. Free coffee/Donuts (WTL) 10% auction fee. House rules apply. Info: bfd50md@aol.com/239-910-0421 Bunky Bruce Sponsor: CAPE CORAL R/SEA HAWKS

2/10/2013 – Delray Beach, FL (E) PBRCA SWAP MEET. Site: South County Civic Center. David Rettig CD PH: 561-703-8730 Email: igofsh@comcast.net. Visit: www.palmbeachrc.com. 9AM - 1PM, auction at noon. Indoors and air conditioned. Tables set-up at 8AM, doors open at 9AM. Tables $10 in advance, $15 at the door. Admission $3, children under 12 free. Sponsor: PALM BEACH R/C ASSOCIATION

IL - Illinois
2/2/2013 – Wheaton, IL (E) TRI VILLAGE R/CERS SWAP SHOP. Site: Dupage County Fair Grounds. Paul Badalamenti CD PH: 847-352-4466 Email: courtesy32@sbcglobal.net. Visit: www.trivillagerc.com. Vendor doors open at 7AM. Doors open at 9AM for public. $20 per table. $18 for 3 or more. General adm $5. Send payment to Brian Eltherington, 5143 Chambers Dr. Barrington, IL 60010. Phone (847) 567-7125 after 6PM. flybri@comcast.net. Please visit: www.trivillage.com. Checks payable to Tri Village RCers Sponsor: TRI VILLAGE RCERS

2/16/2013 -- Belleville, IL (E) BELLEVILLE RC FLYERS 9TH ANNUAL SWAP MEET. Site: 5915 N Belt West. Ted Ellicott CD PH: 618/233-1171 Email: cornet1014@gmail.com. Admission $5; children under 12 free. First 3 tables $5 ea, additional tables $10 ea. Vendors enter at 7AM. General table rentals 7:30 AM. General admission 8AM-Noon. Concessions available. For more info contact Ted Ellicott or Dave 618-401-2451. Sponsor: BELLEVILLE RC FLYERS

2/23/2013 – St Charles, IL (E) FOX VALLEY SWAP MEET. Site: 525 Randall Rd. John Turner CD PH: 630-443-7807 Email: jtgrassroots@yahoo.com. Table set up 8AM with tradeshow from 9AM-2PM following foamy flying. Discount before 02/01/2013; 1 table $15, 2-$12.50ea, 3 or more $10ea. After 02/01/2013, all tables $20ea. $5 per person, children under 12 FREE. Food/Beverage available. Make checks payable to; Fox Valley Aero Club, PO Box 837, St. Charles, IL 60174. Sponsor: FOX VALLEY AERO CLUB

IN - Indiana

2/24/2013 – Bloomington, IN (E) MCRCC ANNUAL SWAP MEET. Site: Monroe Co Fairgrounds. Timothy Mellott CD PH: 812.829.8821 Email: warbird1@sbcglobal.net. Sponsor: MONROE COUNTY RC CLUB

KS - Kansas

2/9/2013 – Overland Park, KS (E) KANSAS CITY RC SWAP N SHOP. Site: Overland Park Intl Trade Center. Thomas Safley CD PH: 816-220-0749 Email: tomsharsafley@sbcglobal.net. Sponsor: KANSAS CITY RC ASSN

MA - Massachusetts

2/24/2013 – West Peabody, MA (E) THE 107TH RC FLYERS PRESENTS THE GRAND OLD AUCTION. Site: Temple Beth Shalom. Jack Shafman CD PH: 978-774-5186 Email: jack714@comcast.net. Lots of RC Planes and Equipment. Great deal-Hanger Flying-Raffles- Food & Drink. Doors Open at 10AM. Auction begins at 12PM. Location: Temple Beth Shalom 489 Lowell Street. West Peabody MA 01960. $2 Admission. Sponsor: 107TH R/C FLYERS INC

MD - Maryland

2/9/2013 – Westminister, MD (E) FLEA MARKET. Site: Westminister VFW. Paul Schaffner CD PH: 410/429-1911 Westminister Aero Modelers Annual Flea Market. Site 519 Poole Rd. For more information contact; Paul Schaffner. Adm $3. Tables $18 9AM-1PM. Refreshments available. Sponsor: WESTMINSTER AERO MODELERS INC

MI - Michigan

2/10/2013 – Burton, MI (E) MID MICHIGAN RADIO CONTROL SWAP MEET. Site: County Fair Grounds. J Michael Holt CD PH: 810.743.6967 Email: mholt954321@aol.com. Reserve tables early Sponsor: CHESANING AREA MODEL FLYING CLUB INC

NC - North Carolina

2/16/2013 – Salisbury, NC (E) 4TH CABARRUS/ STATESVILLE FLYERS SWAP MEET. Site: Salisbury National Guard Armory. Billy Haynes CD PH: Email: marksmithsmitty@yahoo.com. Visit: www.statesville modelflyers.org. Tables: wall $20, aisle $10, adm $5. Set up Fri 2-7PM, Sat 7AM. Starts 8AM Sat. Food/drink available. Reservations contact Mark Smith PH: 704-798-2776 Located at 1235 National Guard Rd. Sponsors: CABARRUS RC FLIERS, STATESVILLE FLIERS RC CLUB INC

NJ - New Jersey

2/10/2013 – Hillsborough, NJ (E) ATOMS RC'ERS SWAP MEET. Site: Hillsborough Municipal Complex. Barry Wilbur CD PH: 908.526.7361 Email: bwilbur1@optonline.net. Visit: www.atomsrcers.com. 70 Tables. No Auction, wide aisles, more tables. Check web for list of major vendors. Event held regardless of weather. Food/Raffle 50/50. Tables $10 sell quickly, don't miss out. www.atomsrcers.com for details and directions. Sponsor: ATOMS RCERS

NY - New York

2/16/2013 – Constantia, NY (E) SWAP MEET. Site: VFW. Paul Mathis CD PH: 405.557.1139 10AM-2PM Constantia VFW, 1560 State Route 49. Admission $5 per person. Tables first come first serve. Food available. Sponsor: ONEIDA LAKE FLYERS ASSN

OH - Ohio

2/2/2013 – Newark, OH (E) LCRC ANNUAL SWAP SHOP AND AUCTION. Site: VFW Hall. Robert Grashel CD PH: 740-587-1854 Email: bobandjeanetteg@hotmail.com. Open 9AM-3PM. Auctions starts at Noon. Tables available in advance, $10 ea. Visit: www.lcrcc.net. Email: bobandjeanetteg@hotmail.com Sponsor: LICKING COUNTY RADIO CONTROL CLUB

2/9/2013 – Dayton, OH (E) TRI STATES LARGEST SWAP MEET AND AUCTION. Site: Montgomery Co Fairgrounds. John Thompson CD PH: Email: realval@woh.rr.com. Setup 6:30AM; Opens at 9AM, Awesome auction after noon. $7 Adm, 10 and under FREE. 160+ $12-$15 Tables sell out early every year! Choose from new & previously enjoyed goodies, RC Airplanes, Quadcopters, Helis, Boats, Cars, Electric, and Gas & Glow. Concession on site. Visit sponsor www.wingmasters.org for event flyer and info. Registration: Email davthacker@aol.com or Lisa@radicalrc.com; Call 937-256-7727. Sponsor: DAYTON WINGMASTERS

2/17/2013 – Wooster, OH (E) MULTI CLUB SWAP MEET. Site: American Legion Post 68. Gerald Brown CD PH: 330-421-7135 Email: fbandgb@aol.com. Open 10AM-2PM. Adm $3, kids under 12 free. Food and drinks available. Email fbandgb@aol.com for table reservation: $10/8FT, $12/12FT. 1 Adm included with table purchase, set up 8AM. Sponsor: WAYNE COUNTY RC CLUB

PA - Pennsylvania

2/3/2013 – Export, PA (E) RC FLEA MARKET AND AUCTION. Site: American Legion Hall. Eugene Binduga CD PH: 724-733-8106 Visit: www.remarcs.org/auction. Location: From Tpk. Exit 57, follow U.S 22E 5.6mi. Take cozy Inn Cut off to Old Wm. Penn Hwy. Hall is 1-1/4 mi. E. Flea market, Auction, Frequent raffles: Prize drawings; Hot food. For info & tables; Gene Binduga. Tel. 724-733-8106.Doors open 8AM. Adm. $3, Tables still $10. Updates: www.remarcs.org/auction Sponsor: MURRYSVILLE AREA RC SOCIETY

TX - Texas

2/2/2013 – Lubbock, TX (E) WINGS MAS SWAP MEET. Site: Silent Wings Museum. Steve Shipley CD PH: 806-620-0590 Email: dshipley@windstream.net. Awards and prizes for static display winners. Sponsor: WINGS MINIATURE AIRCRAFT SOC

2/15/2013 - 2/16/2013 – Garden Ridge, TX (E) TRI COUNTY FLYERS SWAP MEET. Site: Garden Ridge Community Cntr. Edward Valls CD PH: 210.957.2152 Email: edwarda10pilot@aol.com. Doors open 4-9PM Friday, 9AM-2PM Sat. $5 Adm/Day, tables $5/Day, reservations recommended. Table reservations, email Rusty Koehler at rusty@destinationsa.com. Raffle/door prizes/auction. Food and beverages available. No fuel allowed in building Sponsor: TRI CITY FLYERS

VA - Virginia

2/16/2013 – Bridgewater, VA (E) VALLEY RC FLYING CLUB SWAMP MEET. Site: Weyers Cave Community Center. Orlirio Varela CD PH: 540-908-8256 Email: ovjrfly@comcast.net. 682 Weyers Cave Rd. I-82 exit 235 E O. Varela Jr 540-908-8256. Email ovjrfly@comcast.net. Tables $10, Adm $3. Set up 7AM, doors open at 8AM. Sponsor: VALLEY RC FLYING CLUB

2/16/2013 – Newport News, VA (E) 9TH ANNUAL SWAP MEET. Site: 69 Saunders Rd. Francis Kennedy CD PH: Email: rustylm@verizon.net. Doors open for set up 8AM. Open to the public at 9AM. General Admission $5. Sellers; 1st table & Adm $12, 2nd table $8, 3 tables and Admission $28. Food will be available for purchase. Door prizes! Reserve your tables NOW! Sponsor: NEWPORT NEWS PARK R.C

WV - West Virginia

2/16/2013 – Milwood, WV (E) WV RC EXPO. Site: Jackson County. Charles Westfall CD PH: 304.531.0077 Email: chuckflysrc2@yahoo.com. 8832 Point Rd, Millwood, WV 25262. Doors open at 9AM. Admission $5 for Adults, 10 and under or active Military with ID get in FREE!! *RC Demos all day and Static Show/ Competition. Over 100 tables last year! Sponsor: JACKSON COUNTY AEROMODELERS CLUB

MARCH

AL - Alabama

3/23/2013 – Harvest, AL (E) 2013 MADISON COUNTY RC SWAP MEET. Site: Pineview Baptist Church. Walter Duffey CD PH: 256-714-3176 Email: eduffey@knology.net. Visit www.flynarca.com auction at noon; raffle and concessions available. All vendors welcome! Adm $5; age 7 and under free. Tables limited. $8 inadvance or $10 at the door. One free admission for each 4 tables purchased! One $5 Hobbytown discount coupon per admission. Sponsor: NORTH ALABAMA RC ASSN

AR - Arkansas

3/2/2013 – Eldorado, AR (E) MASA SWAP MEET. Site: 1000 N Mosby St. Jason Cunningham CD PH: 870-862-1533 Email: jcunningham50@hotmail.com. 9AM-4PM (set up at 8AM). Adm $5 (women/children under 12 FREE) Raffle drawings, concessions on site. Non smoking facility. Open to sell new/used products. Dealers, hobby shops and the public invited. Tables $12 ea, tables limited. To reserve table call Jason. Hwy 167 exit Champagnolle Rd. Travel W 1-1/4 mi, L on Mosby. Across from Arlington Cemetery. Lost, call Jason Sponsor: MODEL AVIATORS OF S. ARKANSAS

CA - California

3/23/2013 – Oakdale, CA (E) 17TH ANNUAL SPRING SWAP MEET. Site: Club Field. Paul Klahn CD PH: 209-962-6404 Email: pbklahn@sbcglobal.net. Please join the Radio Control flyers Unlimited for our 17th Annual Spring swap meet. Saturday March 23, 2013. 8AM until we are done. Sellers spaces $15. First come first served. Sorry, no commercial sales. For directions, please visit www.rcflyersunlimited.com Sponsor: RC FLYERS UNLIMITED INC

FL - Florida

3/9/2013 – Land O Lakes, FL (E) SWAP MEET AND AUCTION. Site: 22500 State Rd 52. Michael Diesu CD PH: 813-995-0545 Email: mdiesu@tampabay.rr.com. No charge for tables. Sponsor: BAY CITY FLYERS, INC.

3/23/2013 – Polk City, FL (E) SWAP MEET. Site: Mid Florida RC Club. John Freel CD PH: 863-858-5088 Email: jfreel88@verizon.net. Visit: www.midflrcclub.com. Swap meet opens at 9AM-1PM. Food on site. Directions on club website. On Barfield Rd E of Flight. Outdoors , no fee. Sponsor: MID-FLORIDA R/C CLUB, INC

GA - Georgia

3/1/2013 - 3/2/2013 – Perry, GA (E) SOUTHEASTERN MODEL SHOW 2013. Site: 401 Larry Walker Parkway. Norman Deputy CD PH: 478-328-2689 Email: ndeputy@bellsouth.net. Visit: gamarc.com/georgia.html. Site: Fairgrounds. For info: Norm Deputy, 117 Devonshire Rd, Warner Robins, GA 31088. PH: 478-328-2689, ndeputy@bellsouth.net, gamarc.com/georgia.html. Adm. $10 Tbls. $15. Swap meet, MECA, Indoor Electric fly in, RC & CL demos. Fri 1-7PM. Sat 8-5PM. Sponsor: GA AIRCRAFT MODELERS ASSN

ID - Idaho

3/16/2013 - 3/17/2013 – Chubbuck, ID (E) MALL SHOW. Site: Pine Ridge Mall. Gary Jones CD PH: 208-637-1018 Email: garygpjones@cableone.net. Sponsor: EASTERN IDAHO AEROMODELERS

IN - Indiana

3/9/2013 – Columbus, IN (E) JOHNSON COUNTY RC FLYERS SWAP MEET. Site: Batholomew County 4h. Dennis Runge CD PH: 317.736.0590 Email: drunge96@yahoo.com. 9AM-1PM Vendor set up 8AM. Tables $12 advance. $15 at the door. Door prizes, Refreshments. Reserve tables- Dennis Runge Sponsor: JOHNSON COUNTY RC FLYERS

3/9/2013 – Converse, IN (E) MARCH MADDNESS SWAP MEET. Site: 501 E Marion St. Matt Denham CD PH: 765-479-4288 Email: mattsrc57@yahoo.com. Anything R/C. Buy, Trade, Sell. March 9, 2013 9AM-12. Tables $12; $10 if paid before March 1st. Door Adm $4. Sponsor: MISSISSINEWA SKY HAWKS

MI - Michigan

3/10/2013 – Linden, MI (E) 22ND ANNUAL FLINTS RC SWAP MEET. Site: Lake Fenton High School. William Gerald CD PH: 810-655-6420 Email: impalass6565@comcast.net. Visit: www.rcflyingaces.com. Tables $15 in advance, additional tables $12. Adm $5, Women admitted FREE. 17 and under $1. Vendors 8AM, Public 9AM. Wide screen RC videos. Sponsor: THE FLYING ACES R.C. CLUB INC

NC - North Carolina
3/16/2013 – Lexington, NC (E) ANNUAL SWAP MEET. Site: Davidson County Fairgrounds. Thomas Brittain CD PH: 336-705-0548 Email: tbrittain1@triad.rr.com. Visit: traidswapmeet@yahoo.com. 8AM-1PM. Early vendor setup Fri evening 5:30-9PM and Sat morning 7AM. Aisle tables $12 with 1 free adm per vendor. Wall tables $15 with 1 free adm per vendor. Adm is $5, spouse and children free with paid adm. Concessions, door prizes, raffle, lots of bargains! For more info or table rental contact Tom 336-764-2616, leave message if no answer, Danny 336-705-0548. Sponsor: TRIAD AEROMODELERS, INC

NY - New York
3/17/2013 – Melville, NY (E) WHITMAN FLYERS RC SWAP MEET. Site: Camelot Hall. Frank Mauceri CD PH: 631.862.7948 Email: roadapple@pb.net. Visit: whitmanflyers@yahoo.com. Join us for a great day of buying and selling. Adm $5 under 12 FREE. For more info www.whitmanflyers.com Sponsor: WHITMAN FLYERS

3/24/2013 – West Seneca, NY (E) 49TH ANNUAL AUCTION. Site: Shrine Center. Thomas Warda CD PH: 716-652-7887 Email: teejay1133@yahoo.com. Sponsor: RC AIRCRAFTERS OF W.N.Y.

OH - Ohio
3/3/2013 – Ravenna, OH (E) RAVENNA THUNDERBIRDS 24TH ANNUAL SWAP SHOP. Site: Maplewood Career Center. Daniel Porcase CD PH: 330.297.7348 Email: dannyspeed@aol.com. Time: 10AM-1PM. Vendors set up at 9AM. Adm $3. Wives & kids free. Raffles! Refreshments! Table reservations are highly recommended. Sponsor: RAVENNA THUNDERBIRDS RC CLUB INC

3/9/2013 – Shelby, OH (E) EAGLE SQUADRON 5TH ANNUAL SWAP MEET. Site: Sacred Heart of Jesus Church. Norman Elliott CD PH: 419-589-4469 Email: ncelae136@aol.com. Visit: www.eaglesquadronrc.com. Set up 8AM. Open 9AM-2PM, Adm $5. Tables $10 ea, 1 Adm with table. Raffles, food, drinks, vendors. Welcome anything Radio Controlled! Info & table reservations call Norm. Sponsor: EAGLE SQUADRON

3/23/2013 – Arcadia, OH (E) FINDLAY FLYING CIRCUITS SWAP MEET. Site: 301 W Brown Rd. Christopher Hicks CD PH: 419-422-7361 Email: chicks45840@hotmail.com. Findlay Flying Circuits R/C Swap meet, March 23, 2013. 8AM-1PM. Set up/Breakfast 7AM. Arcadia Community Park 301 W Brown Rd. Tables $12. Admission $4. Call Chris Hicks. Sponsor: FINDLAY FLYING CIRCUITS

3/23/2013 – Lancaster, OH (E) FORKS 37TH ANNUAL RC SWAP SHOP. Site: Fairfield Co Fairgrounds. Tony Scott CD PH: 740.687.5038 Email: tonyscott40@sbcglobal.net. Visit: www.flying-forks.com. Open to public 8:30-1PM. Vendor setup 7:30AM. Admission $3 (Ladies and children under 12 FREE). Free parking and coffee. Trophies awarded thru 3rd place per class. Lots of door prizes. Vendor table $10. Great Refreshments available. Located 25 mins SE of Columbus. 157 E Fair Ave Lancaster, OH 43130 Sponsor: FAIRFIELD OHIO RADIO KONTROL F.O.R.K.S

PA - Pennsylvania
3/9/2013 – Lebanon, PA (E) 33RD ANNUAL RADIO CONTROL FLEA MARKET. Site: Lebanon Fairgrounds. Larry Leiphart CD PH: 717-732-7980 Email: lleiphart@comcast.net. Visit: www.cpaa.us. Site: Lebanon Expo 80 Rocherty Rd, Lebanon, PA 17042. Over 600 indoor table spaces are available in 41,000 sq ft aisle space. $15 ea, wall space $20 ea. General admission is $8 (830am). Advance general admission tickets are available $7 (830). First time renters email or call Larry before ordering space. For info visit website: www.cpaa.us or call Larry. Sponsor: CENTRAL PENN AEROMODELERS

3/17/2013 – Hermitage, PA (E) ANNUAL MODEL SWAP MEET. Site: 5550 E State St. Gordon Longstreet CD PH: 724-346-2841 Email: longstreets@verizon.net. General admission $4/ Tables $10. Set up 8AM. Open 9AM. Sponsor: SKYLARKS OF SHARON PA

3/23/2013 – Hamburg, PA (E) TRI COUNTY WING SNAPPERS ANNUAL SWAP MEET. Site: Hamburg Field House. Frank Lacorte CD PH: 862.432.9350–CELL Email: frankb24@ptd.net. Doors open at 6AM for vendors. 8AM to the public. General admission $5 Sponsor: TRI COUNTY WING SNAPPERS INC

TN - Tennessee
3/16/2013 – Murfreesboro, TN (E) 19TH ANNUAL SWAP MEET. Site: National Guard Armory. Myron Noyce CD PH: 615.893.2864 8am-12pm, General Admission $5, children under 13 free. Vendor tables $10 ea if paid by Mar 8. Tables $15 at the door if available. Table set up 7AM. Contact CD to reserve tables. Concessions, Radio raffle-tickets $5each. Sponsor: MIDDLE POINT RC FLYERS

TX - Texas
3/15/2013 - 3/16/2013 – Weatherford, TX (E) WAMS ANNUAL SWAP MEET AUCTION. Site: Hall Middle School. Verne Bell CD PH: 817/599-9580 Email: vernebbell@intergate.com. Largest Swap Meet/Auction in South West, Bigger & Better. More Tables, More Spaces. $7/day admit, $12 tables. Swap Fri 5-9PM. Sat 8-12PM. Auction Sat 12-5. Reserved tables $17 in advance. Contact Verne Bell at 817-599-9580 prior to March 1st. Will have 3 speakers/seminars over Fri & Sat. Sponsor: WEATHERFORD AERO MODELING SOC

3/16/2013 – Kingsland, TX (E) 7TH ANNUAL SWAP MEET. Site: 3451 Rose Hill Dr. Wayne Meredith CD PH: 512.793.2769 Email: jwm451@hotmail.com. 830AM-2PM. $5 entry, $10 per table. Free entry for accompanying spouses/youth 12 and under. Door prizes/Raffles/Food/Refreshments onsite. More information at www.highlandlakesflyers.org, jwm451@hotmail.com Sponsor: HIGHLAND LAKES FLYERS INC

3/23/2013 – Montgomery County, TX (E) FOURTH ANNUAL NORTHWEST HOUSTON R/C SWAP MEET. Site: Magnolia Community Center. George Berko CD PH: 713.299.7564 Email: gberko@swbell.net. Visit: www.nwrcc.com. Our 1st indoor swap meet- Buy Sell or Trade! $5 entry fee Sat. March 23, 9AM-1PM. R/C Auction starts at 1PM. Concessions provided-come hungry! Sponsor: NORTHWEST HOUSTON RC CLUB

WI - Wisconsin
3/3/2013 – Appleton, WI (E) VALLEY AERO MODELERS ANNUAL RC SHOW AUCTION. Site: Monarch Gardens. Tim Stadler CD PH: 920.757.9238 Email: timflight1@aol.com. Sponsor: VALLEY AERO MODELERS, INC

APRIL

AL - Alabama
4/20/2013 – Decatur, AL (E) NORTH ALABAMA SPRING REGIONAL SWAP MEET. Site: Decatur Shrine Club. James Ray CD PH: 256/353-1323 Email: james-r-ray@att.net. Visit: www.ourdmac.com. Large indoor facility with plenty of tables: The Decatur Shrine Club. 1117 Leenwood Dr SE (just off HWY 31 S). Decatur AL. 9AM-1230PM. Raffles/door prizes. Admission $5 ea, under 12 free. Table/floor space $8 per table prepaid $10 at the door. All RC Planes, boats, glow and electric models and modelers welcome. See website for directions. Sponsor: DECATUR MODEL AIRPLANE CLUB

MA - Massachusetts
4/6/2013 – Turners Falls, MA (E) GIANT WESTERN MASS RC FLEA MARKET/SWAP MEET. Site: Franklin Co Technical School. David Korpiewski CD PH: 413.695.2191 Email: davidk@cs.umass.edu. Visit: www.franklinrc.com. Second Annual Giant RC Flea Market April 6, 2013. Free Admission. Runs from 9AM-2PM. Tables $15 at the door, $10 in advance before April 1. Indoor/Outdoor spots available. Anything RC goes, 100 tables. Contact David Korpiewski at 413-682-2191 or davidk@cs.umass.edu Sponsor: FRANKLIN COUNTY RC

4/13/2013 – Bridgewater, MA (E) MULTI CLUB SWAP MEET. Site: Bridgewater Knights Of Columbu. Carl Vogel CD PH: 508.783.7055 Email: rcakropilot@aol.com. South shore RC club, Otis Model Aero club and Wingbusters model aircraft club host the Second Annual swap meet. All clubs, members and guests welcome. Food and beverages available. Swap meet 9AM to 2PM Sponsor: SOUTH SHORE RC CLUB INC

VA - Virginia
4/6/2013 – Mechanicsville, VA (E) 11TH ANNUAL SWAP MEET AND INDOOR FUNFLY. Site: Fairmount Christian Church. James Webb CD PH: 804-572-3572 Email: jim.webb@genworth.com. Fairmont Christian church, 6502 Creighton Rd. Tables $10, 7AM set up keithcollier@verizon.net. Meet at 8AM $5. Funfly 1-4PM $10, AMA Reg tsracing@dragbike.com. Sponsor: HANOVER RADIO CONTROL FLYING CLUB

For a complete calendar and year-end listing of Contest Calendar events, go to www.modelaircraft.org/events/calendar.aspx

A complete list of **Contest Coordinators** can be found online at www.modelaircraft.org/events/contestcoordinators.aspx

You can find a directory of **Contest Board Members** at www.modelaircraft.org/events/cbmembers.aspx

Classified Ads [Airborne Media, 7414 Burton Dr., Liberty Twp., OH 45044]

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Dave Gianakos
dave_gianakos@comcast.net

Airplane's highlight is historical runway flight

Dave Gianakos (dave_gianakos@comcast.net) from Littleton, Colorado, submitted two photos of his 1/6-scale Aerotech P-47D Thunderbolt equipped with a Brison-Sachs 4.2 cu. in. gas engine and painted in the colors of an aircraft flown by the 56th Fighter Group's commander, Col. David Schilling, during World War II. Dave wrote:

"This plane was flown in several contests, including the 2004 Scale Masters contest in Kansas City, Missouri. I suppose the highlight for this plane was that in 2004 I took it to England and flew it at an air show from the same runway that Col. Schilling had flown from 60 years before at the Boxted, England, fighter base. These photos were taken from the remains of runway 04-22, the main-duty runway that they used during the war. After competitions ended, I donated the model to the Kalamazoo Air Zoo in Michigan, where it can be seen today."

Dave wrote that he has been flying RC off and on for roughly 10 years, and works as a senior 747-400 captain and standards instructor/check pilot with Delta Air Lines. He used a Nikon E885 for both images; the front-view photo was shot with a 10mm focal length, f-stop of f/8.4 at 1/225 second and an ISO of 100. The rear-view photo was shot with a 12mm focal length, f-stop of f/9.2 at 1/196 second, and an ISO of 100.

Email your high-resolution "Viewfinder" photo and a short note telling the airplane or helicopter story to jays@modelaircraft.org.

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Michael Smith *National Model Aviation Museum Director*

I AM THE AMA

JS: *How did you get involved with model aviation?*
MS: My father was interested in aircraft, and at a very early age I started building plastic models. As a youth, my dad had flown CL models so in about 1985-86 we started there, but when my dad was stationed at Fort Bliss, Texas, one of his employees, George Luke, flew RC models. He took us out to the local club's field on the north side of the city and we joined and built a Sig Kadet MK II that he taught us to fly.

JS: *How has model aviation impacted your life and/or career?*
MS: I have always been interested in aircraft and building models. When my eyesight hampered my desire to join the military, I decided that the only way I could still be around the aircraft I enjoyed was to go into the museum field.

I volunteered in numerous aviation museums and then was fortunate enough to be employed at the National Museum of the United States Air Force in Dayton, Ohio. The bad part was it was a contract position, so when my time expired, I returned to a job that I had held at the National Archives.

My father and I were still interested in model aircraft though, and received *Model Aviation* magazine. The job of AMA museum curator was posted in the magazine and I applied.

JS: *What disciplines of modeling do you currently participate in?*
MS: I presently just sport fly but really enjoy Scale and the detail associated with it, so I am presently working on trying to scratch-build a Vickers FB.12.

JS: *What are your other hobbies?*
MS: I am an avid cyclist and at one point many years ago actually raced. I find the technological aspect of the sport very fascinating.

JS: *Who (or what) has influenced you most?*
MS: Not to sound like a cliché, but my parents. My mother was a history teacher, so whenever we moved, museums were one of the main points of importance, and my father's interest in aircraft heavily influenced the direction that my thoughts turned.

JS: *What would you like members to know about the National Model Aviation Museum?*
MS: I would like members to know:

- The museum is truly a fantastic, ever-changing, and evolving place. In fact, just recently the museum's acquisition committee met and voted to accept seven new pieces into the collection.
- The museum is not just artifacts but also the stories of those pieces, and through the archives and history program, it includes the stories of AMA members, AMA clubs, and associated aeromodeling businesses. You can read more at www.modelaircraft.org/museum/history.aspx.
- That the museum has a staff of trained museum professionals who deeply care about the collection and strive to ensure its protection for generations to enjoy.
- I hope everyone gets a chance to see the museum at least once, but we know given distances, etc., this is not going to be a possibility. We are working toward developing more information about the collection for the Internet.

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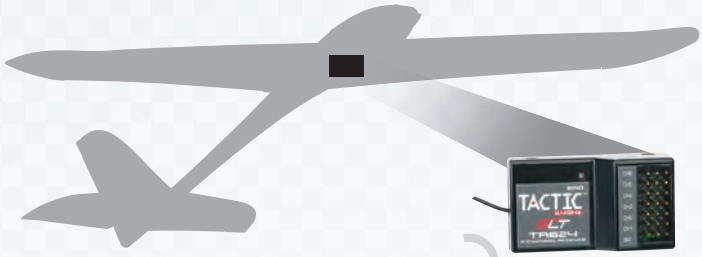

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