

**PRESIDENT TO PRESIDENT**

# Hi Fellow Officers!

Mark Smith, AMA Interim President

First, let me thank you for stepping up to the plate to be a club officer. It's folks like you that who so many to enjoy this great hobby!

This month I'd like to share some exciting news that you may not have caught. This all started more than a year ago when the Insurance Committee was approached by our District I Vice President Andy Argenio who wanted primary insurance for the folks who volunteer for us so we can enjoy the hobby. This includes members who are involved in positions ensuring that AMA clubs and members comply with the AMA Safety Code/Regulations, including compliance with waivers, and who are responsible for

sanctioning, coordinating, and directing model aircraft events. The following is a partial list to give you an idea of which jobs we are talking about:

- Contest Coordinators
- District Safety Officers
- Contest Directors
- Leader Members
- Large Model Aircraft Inspectors
- Air Show Team Managers
- Associate Vice Presidents
- Contest Board members
- World Championship team managers

I am on the Insurance Committee and I'll confess, I was not too excited about this

Contact Mark at [ama.mtsmith@gmail.com](mailto:ama.mtsmith@gmail.com)

as I was pretty sure this would significantly raise our rates (remember that old saying "let sleeping dogs lie?") But at Andy's persistence, our insurance contact approached the carrier and was able to get this added coverage at no additional cost!

Now, let me give you an idea what this means to us. Let say that a model was recently inspected by a Large Model Aircraft Inspector and it crashes and seriously injures a spectator. The injured spectator files a claim against the AMA member pilot and the local AMA club

please see **President to President ...** on page 3

**CLUB CORNER**

# Safety is the Name of the Game

Jim Wallen, Insider Club Column Editor

Contact Jim at [sjwallen@tde.com](mailto:sjwallen@tde.com)

Every AMA club has a safety officer. It is a requirement if the club is to be AMA sanctioned. All too often we quickly identify a safety officer and then go on our merry way, paying little attention to significant safety issues. Let's identify a few of them and see if they might make sense for your club.

- AMA issues a safety code to all AMA sanctioned clubs every year and it should be posted at your flying site. This listing of safety requirements has been a valuable asset over the years that has contributed to minimizing accidents and injuries. Take the time to read it to refresh your memory.
- Have your safety officer give a brief presentation at one of your club meetings. Perhaps having a guest speaker come to the meeting and give a talk about procedures to follow for such things as lacerations, heart attack, or some other potential problems that could arise.
- Keep the address or location of your flying site prominently posted in case of an emergency that requires medical assistance. Minds can get fuzzy when you are in the middle of an emergency! If you have to make that 911 call, you need to know where you are.
- We have a lot of hard-earned cash invested in our aircraft. They don't stay in good shape forever. Take the time to periodically check them out for wear and

please see **Club Corner ...** on page 3

## JULY 2011 CONTENTS

**PRESIDENT TO PRESIDENT** ..... pg 1

**CLUB CORNER** ..... pg 1

**ON THE SAFE SIDE** ..... pg 2

**LEADER TO LEADER** ..... pg 3

**EDITOR'S PICKS**

A Member's Perspective: The importance of being an ambassador to the RC hobby ..... pg 4

Tips & Tricks ..... pg 4

Scale Plans Building for the Novice:

Part 1 ..... pg 5

Don't Miss the 75th! ..... pg 5

# With Great Power Comes Great Responsibility

Contact Jim at [jtiller@hotmail.com](mailto:jtiller@hotmail.com)

Jim Tiller, *Insider Safety Column Editor*

In my first issue as the safety editor for the *Insider* publication, I visited the issue of instructions, or lack of them, in many of the model kits offered on the market. Now I feel the need to talk about it again.

It has come to my attention that a few of the manufacturers of the large specialty airplanes are not offering *any* kind of instructions in some of the larger and more sophisticated kits. The rationale is this: if you are in the market for these large, specialty airplanes, you should know how to put them together.

My first reaction is to say it is just another symptom of the manufacturers shirking what I consider a basic, yet critical, responsibility. After lengthy discussion with my modeling community, I am beginning to change my mind.

To clear my thinking on weighty issues, I often try to find an analogy in an unrelated field. In this case, I thought of a similar situation in the car-racing world. If I bought a chassis for a race car, would it come with instructions? Probably it would not. I would assume that the buyer has the experience and knowledge to build a race car and would make careful decisions about what motor, suspension, tires, and wheels he would use. The assembled product would be the result of the accumulated knowledge and skill of the builder—and his consultants in the racing community.

Does this analogy carry over to a person who buys a 100cc-size RC ARF? I think so. The airframe is only one part of the total product. The flier must select the engine, radio, and servos that will meet the needs of the whole aircraft and the way he intends to fly it. Similarly, it would be the result of his accumulated knowledge and skill that would result in the finished product. It is largely his effort and choices that make the airplane a good flyer or a poor one, a safe one or a dangerous one.

If the manufacturer is not responsible for the assembly instructions, then who is? Once again let's look at the race car analogy. The race car builder should have read "Race Cars 101" and spent some time working under the tutelage of another builder. I'm sure, like any other enthusiast, he has also spent a lot of time talking race cars with his racing friends. In other words, he has paid his dues and done his homework.

The same would hold true for our big airplane builder. We would assume that by the time he reaches out for the 100cc or larger airplane he has built a few others along the way. He has read "Big Plane 101" and he, most certainly, has spent hours hangar-talking with his flying buddies.

If we assume that I have made a valid argument (and I'm admitting that's a big "if") a more important thought is where do you get the proper knowledge and instruction? This is the crux of the question as it applies to this safety column.

**The Internet.** A few years ago, the obvious answer would have been books and magazines. They are still important, but we all agree, the Internet is the world's biggest encyclopedia. Google any topic—no matter how specific—and you are guaranteed about a 100 returns. There is a ton of information out there. Don't forget the Internet has video as well as written

information. I find a good YouTube video is often my best source for tutorials on many topics. I know there are some that argue they either cannot or will not use the Internet. That's your choice, but if it is, it is a poor one.

A bigger problem is whether or not the information you glean from the big cloud in the electronic sky is accurate or reliable. The only advice you get here is the advice I give everyone about electronic media. You have to be a skeptical reader. I tell people I make my political decisions by watching both Fox News and MSNBC. After I hear these two sources report the "news," I figure the truth is somewhere in the middle.

**Consultants.** This is where the kit vendors and distributors are a resource. The manufacturer is certainly the ultimate authority on its products. Most are more than happy to provide advice and clarification to their buyers. Other sources would be column editors in magazines, e-zines, and forums. Many vendors also allow their buyers to add their own review of the product. These are often helpful.

**Your aeromodeling community.** We are all asked why we belong to the AMA. The most common answer is the insurance. My answer has always been: the modeling community. I consider this my greatest resource. I have found my flying friends have a wealth of empirical knowledge and they freely pass it on to me. I am always amazed at their generosity—and am in their debt. What makes this information so much more valuable than any other I get is that I trust them. In Hillary Clinton's words, "It takes a village," and these modelers are definitely my village.

Should the manufacturers offer more in the way of written instructions? I think so. But I am of a generation who grew up reading instructions, books, and magazines. The world now has a million ways to access information.

As Spiderman says, "With great power comes great responsibility." It is ultimately our own responsibility to build and fly safely. We can't abrogate that. I remember talking to a flight engineer that who on B-17s during World War II. He said he was asked by a reporter if he trusted Boeing airplanes. He said "No, I trust my crew to get me back home. I know Boeing builds good airplanes." I think that's good advice. We have to trust ourselves—and build good, safe airplanes.

I welcome your input on this subject. I think it is an important one. Send me your own views and I will include them in a future column. →

Need Articles  
for your Club's Newsletter?

Visit the AMA *Insider* archives online at

[www.modelaircraft.org/insider/archives.html](http://www.modelaircraft.org/insider/archives.html)

# Brand Up!

Contact Rusty at [rustylm@verizon.net](mailto:rustylm@verizon.net)

Rusty Kennedy, Chairman Leader Member Program Development Committee

You're out for a weekend drive and you see a model airplane in the sky. You manage to find your way to an open field and there it is, a model airplane field. You sit and watch for a while. Maybe someone spoke to you, maybe not. After a short visit you drive off. Did you know that you had just visited an Academy of Model Aeronautics Chartered Club? Probably not.

You have just experienced what many visitors experience. Will they be back? Maybe.

I have visited several flying fields in recent weeks and other than the AMA Safety Code posted, you see nothing that tells the visitor they visited an AMA Club flying field. Why is this important? Well we are AMA members and we fly under the AMA guidelines and we did build an AMA chartered club and field. It may be old fashion, but we as AMA members should be proud we belong to the largest model aviation organization in the world that is celebrating 75 years of serving modelers. We should show it off.

We all need to do what we can to encourage new people to learn more about model flying, clubs, and the AMA. Most visitors will seek information by going to the Internet. The Academy of Model Aeronautics and your club logos and website addresses need to be clearly visible at your flying field. This sounds so simple, but few do it well.

The AMA is initiating a branding strategy. Simply put, branding is everything you do to create and deliver value for a customer. One part of branding is the consistent use of the name and logo. Our clubs are part of the AMA branding, too. In fact, clubs and members are the most important part of AMA branding as it is the positive interaction from club members and

the flying site that will leave the first impression of value to new people. Just like good service and a meal at restaurant, you will tell six people about it. If you have a bad experience, you'll tell more than 10 people.

Branding your club flying site is important, too. It means letting people know we are the AMA by use of a flag, wind sock, sign, and/or an AMA information sheet. How about a new club sign that reads something like:

Club Name  
Club website address and phone  
Academy of Model Aeronautics Charter 123  
[www.modelaircraft.org](http://www.modelaircraft.org)

The AMA store has all sorts of AMA-related items that are just right for our use. You can buy precut 18-inch logos and for less than \$15 (\$7 precut vinyl; \$6 blank sign) make a nice AMA weather-resistant sign.

Oh and that visitor. Go say hello and invite him or her to a meeting.

Now, about that website. What does the homepage tell the cyber visitor? The homepage is like meeting someone for the first time. First impressions are lasting impressions. Colorful, club name, AMA logo, and it is better to spell out AMA. Not everyone knows what AMA means. Write something about the 75<sup>th</sup> Anniversary. Also enable easy-to-find contact information and a link to AMA on the homepage.

Okay, AMA Leader Members, "Brand Up." At your next meeting make a few suggestions. →

## Club Corner continued from page 1

tear. This is especially true for batteries. Electrical failure is the source of numerous unexplained crashes.

- Pilot error is always a major concern. Maybe conducting classes for pilots to fine-tune their skills would help out. Many clubs provide training for the new fliers but pay little attention to pilots who have successfully soloed. There is always room for improvement.
- Courtesy and common sense often fix a potential safety issue before it becomes a problem.
- Our hobby often puts us in potentially hazardous environments. We need to think of safety issues that are not directly related to flying. Do you have an area at your flying site that is a great hangout for snakes? Stay away if at all possible.

Extreme sunlight can be damaging to your eyes. Take a look at getting some proper eye protection. Some tints of color actually let you see your aircraft more clearly. Polarized lenses are a great form of protection. Our hobby is notorious for putting us in jeopardy from sunlight. Always slather on sunscreen before going to the field. It is a good idea to reapply during the day. Skin cancer is a terrible thing!

Take the time to think about safety. Safety doesn't happen all by itself. It takes your thoughts and actions to make it happen. Modeling and flying is one of the best sources of fun and enjoyment that I can think of. Creating safe environment will help keep it that way. →

## President to President

continued from page 1

where the event occurred. In addition, they file a claim against the individual who inspected the model because of his negligence. While AMA coverage would be in excess of the pilot's homeowner's insurance, AMA coverage would be primary for both the AMA club and, with this expanded coverage, the Large Model Aircraft Inspector. The inspector would not need to notify his homeowner's insurance company of the claim.

If you get a chance, drop Andy a note thanking him for his concern for these key individuals. We have been able to amend our insurance coverage to provide primary General Liability coverage to those members while acting in the scope of their duties for the AMA for claims due to accidents causing bodily injury or property damage. Andy's one of our key Executive Council members who works tirelessly for his district and all modelers. His email address is [imaasaction@aol.com](mailto:imaasaction@aol.com).

In closing, please let us know how we can help you and keep up the great work! →

# A member's perspective: the importance of being an ambassador to the RC hobby

Cecil Walston

Like many of you in the RC club, you probably have had a love of models, aviation, or both for most of your life. Some members in our club were actually pioneers in the field of model aviation and have seen numerous advances in technology turn this hobby from one of a minority of elite craftsman, who spent untold hours developing ideas and hardware, to an industry filled with ARF and RTF out-of-the-box products that almost anyone can master!

My first attempt at model aviation flight was when I managed to talk my very frugal father into buying me a Cox .049-powered CL P-40 Warhawk when I was seven years old. I was head-over-heels in love with the P-40, with its Flying Tiger decals, and I couldn't wait to get it home and start flying!

Well, neither dad nor I had any experience with airplanes, model or otherwise, and we studied the instructions front to back. Hey, the ads on TV and the brochure made it look and sound so simple! Needless to say, the airplane never even ran for me, much less flew, so we sadly returned it to the local store and traded it for a Fokker Dr. I Triplane. The Triplane actually ran great, but our lack of experience and knowledge saw the Red Baron's legacy in a heap pretty quickly right alongside my dreams and aspirations of being a master of the skies. Unfortunately, my dad saw the entire hobby as a complete waste of money, and he hasn't had anything but disgust for it since.

The saddest part of this whole story is that this is actually the *normal* outcome rather than the exception.

My first serious attempt to fly RC airplanes was when I lived in Frisco, Texas, and was very close to the North Dallas RC Club field. I met several folks who were what I would consider to be "True Ambassadors" to the hobby. Among them were Laverne Chandler and US National Aerobatic team member Bradley Lang. Laverne let me fly his Ugly Stick, and Bradley let me fly his Super Chipmunk. Unfortunately for me, my work schedule and salary did not permit

me to join a club of this caliber, so I did a lot of observation and spectating ... and wishing!

After a couple of other false starts, I have finally persevered and will soon be flying a plane that my "Ambassador" and mentor, Don Berner, helped me build from pieces and parts of airplanes crashed by other folks. I am a member of the AMA, and Angelo RC Inc., our local flying club, and have even recently taken over as secretary/treasurer too.

The moral of this story is this: without ambassadors who are willing to put forth the effort to bring in new members, promote the hobby, and guide new members through the pitfalls that would otherwise make them walk away in disgust, our hobby will ultimately stagnate or be relegated back to those elite, diehard few who are going to do it no matter what! If we promote our club and our hobby in a responsible way, everybody wins!

Being a good ambassador is more than being a proponent for the hobby; it also means being a good neighbor and member of the community. Let's face it, not everybody likes airplane noise, be it models or full scale! I know it's hard to believe, but it is true! As far away from homes as our field is located, we still get an occasional complaint. Being in West Texas, sometimes the only time we can fly without strong winds is early in the morning. Be considerate, especially if you fly a make or model of airplane that is particularly loud. One persistent complainant can shut down a flying club site forever.

We also need to be super attentive to our safety rules, regulations and record. Remember, it only takes one highly publicized injury or incident to permanently ruin the reputation of a club or hobby. I know personally of three RC fliers who have lost fingers to propeller strikes!

Another perfect example of this is the "Live Steam" large-scale, ride-on model train groups. I was a member of a large group that ultimately had to disband because of several high-profile accidents

that happened to other clubs in other states. The latest one involved a 10-year-old boy who was killed when the miniature train he was a passenger on derailed because of the engineer operating at an unsafe speed. Now, that engineer and the boy's family will have to live with his death on their consciences for the rest of their lives. The "Live Steam" Train clubs can no longer get affordable insurance because of this and several other high-profile accidents!

I guess what I'm trying to say is this: please be aware of how you represent the club and our hobby. Several of our members have gone well above and beyond in their role as ambassador for me, and I fully intend to do the same for others that I meet. Sometimes it's easy to forget how hard it was when we first started out in this hobby. Hopefully we can look back and see how some well-timed and friendly advice can save a new member a whole lot of money and misery, and will hopefully ensure that they become lifelong RC fliers and club members. →

## Tips & Tricks

To clean your airplane after a day at the field use my formula, which is as follows:

- 5 cups of water (40 oz.)
- 1 cup of denatured alcohol (8 oz.)
- ½ cup of ammonia (4 oz.)
- 1 oz. of dish detergent

If you would like to try something different, try using lemon Pledge spray wax. It cuts through the caster lubricant and grease, and cleans and polishes the surface leaving the aircraft with a protective coating without any residue.

—by Tom Voorhis, West Jersey Radio Control Club, Gibbsboro, New Jersey

# Scale Plans Building for the Novice: Part 1

Jerry Bates

*A comprehensive article on selecting and building your first scale RC model airplane from plans.*

## Introduction

After 40 years of building model airplanes one acquires many skills and will take many aspects of hobby building for granted. In the past when I sold a plan I assumed the person who purchased it had the knowledge needed to put the model together with the aide of the construction manual. That, of course, is not always the case. There are often many general aspects of construction not covered in most manuals. Many of my plans, and those by other designers, are purchased by modelers that have not built a model from plans before.

Building from plans is a fun and exciting part of the hobby. It allows the builder to construct a model not often seen at the flying field. You are also not constrained by the liability aspects of most large kit manufactures such a size, weight, and construction techniques. Any level of finish from a casual fun-fly model to a model used in scale competition is possible. But, it can also be a nightmare for the first-time plans builder. In this article series we help explain the basic aspects involved in constructing your first plans-built model. We won't be able to cover every subject and surely will miss some aspects, or they may need further explanation. There is a one-stop shop for additional help though. Visit the R/C Scale Builder website at [www.rcscalebuilder.com](http://www.rcscalebuilder.com). If you cannot find help within their "tutorial" and posted "articles" you can always post your questions and receive help from the many members of this great website.

Let's start by explaining the difference between building from plans and scratch building. A "scratch builder" does not purchase engineered plans but uses a collection of data, scale drawings, etc., to develop his own outlines of the model to the scale he chooses. Or may just dream up a design and start cutting wood. He relies on his own skills to produce formers, ribs, and other parts to build the model. A scratch builder normally has been doing this long enough to have acquired the knowledge required to produce a structurally sound airframe without outside assistance.

A "plans builder" is one who buys plans for a model, then either buys a kit of parts or makes his own parts, to construct the model. Experienced designers engineer most plans offered. Much thought has gone into making certain the airframe is a safe and sound design. Of course, the airframe is only as good as the construction. Care must be taken by a builder to cut the parts to accurate size for a true fit and in using the appropriate adhesives to ensure a tight and secure joining of the parts.

## Selecting Your First Plan

If you are going to build from plans and have not built several kit planes first, it will be a good idea to reduce you choices of selection based on degree of construction difficulty involved and flying characteristics of the finished model.

A lot of us get into plans building because we want something cool—like a P-51 Mustang, for instance. That would

not be a good choice for a novice kit builder or first time plans builder. Models of that degree of difficulty can pose many problems during construction and are considerably more difficult to fly than other available choices. By the same token, there is no sense plans building a non-scale trainer or Piper Cub. These types of models are available in kit form and as ARFs (Almost Ready to Fly) and will be a more economical choice than plans building. If you do not have field experience in the operation and flying of low-wing aircraft, and multiengine aircraft, they should be avoided for similar reasons.

The type of airplane you should be looking for is something with stable flying characteristics. Some of the clues will be a good degree of wing dihedral, positive wing root incidence accompanied by wing washout, and engine down thrust. Confused? Don't worry; this is not going to be a course in aerodynamics. The majority of plans designers have taken all these factors into account when designing the model. We are just going to give you an idea of some of the things to look for, and an explanation of the terms involved.

If you are looking into building a high-wing cabin airplane you have little to concern yourself with. Most of these factors are incorporated in their design simply because of the dynamics of the layout. If you are thinking about building a low-wing, model then you will want to consider these items. The following is a general explanation of some terms you will encounter and how they apply to you at this point.

**Datum:** With regard to model plans and aircraft scale drawings, the datum, or datum line, is the line used to establish the level attitude of the airplane. Often it will be a line drawn from the center of the propeller to the tail of the airplane. We will assume the airplane is level with the datum line when discussing the following terms.

**Wing Dihedral:** Look at an airplane from the front view. If the wings are level with the ground surface (most are not), then it has no dihedral. If the wing panels are angled up from the fuselage to each wing tip, then it has dihedral. If the wings are angled down from the fuselage to the wing tips, it has anhedral—stay away from those for the time being. Generally, the more wing dihedral, the more stable the model will be in flight.

**Angle of Incidence:** Look at the airplane in side view where the wing meets the fuselage (wing root). If the front of the wing is angled upward, it has positive wing incidence. If the front of the wing is angled downward, it has negative wing incidence. We want positive incidence in our model; between 1.5 to 2.5° is the norm.

**Washout:** This is the difference between the incidence of the wing root and the wing tip in a positive manner. If you have 2.5° of positive incidence at the wing root and 0° incidence at the wing tip, you have 2.5° of washout. Washout is incorporated into a wing to help prevent wing tip stall. Imagine your model during landing approach. You have lined it up with the runway and

please see **Scale Plans Building ...** on page 6

# Scale Plans Building

continued from page 5

reduced the speed in anticipation of a smooth touch down. As you begin to flare out for touch down, the nose of the model comes up. The positive incidence of the wing increases to the point that the wing root area stalls, or no longer provides lift, and the model loses altitude. That is a good attribute during the landing mode. The wing washout will allow the wing tips, and much of the outer wing panels, to continue to provide lift thus allowing you to maintain control of the model until touch down. If you did not have wing washout, the entire wing would stall. What normally occurs without washout is one wing panel stalls before the other (tip stall) and the model falls off to that side and crashes, or spins into the ground.

**Downthrust:** Downthrust is the negative angle between the engine centerline and the datum line. Downthrust is often used to maintain level flight of a model with a high-lift wing across the range of engine power settings from low speed to high speed. Downthrust is normally incorporated into high wing cabin models that use “flat bottom” or high-lift airfoils. Without downthrust, the model would climb while trying to maintain level flight at a faster rate the faster it was going. Downthrust can also have a positive effect on models during landings. Using the landing scenario in the washout definition above, suppose you need to increase speed just before touch down. If you applied power without engine downthrust the model would jump skyward. That would further increase wing incidence during that low-speed condition making the entire wing stall out and causing loss of control of the model. Engine downthrust would allow the model to move forward and help you maintain control.

**Airfoils:** An airfoil is the shape of the wing in cross-section. Much like the wing rib. The shape of the airfoil and the wing attitude in relation to its forward movement (incidence) at speed is what generates the lift for the model. There are literally thousands of differently shaped airfoils. We will only be discussing four generic types as used for our models. Of course, there are hundreds of different shapes within these types but we are

concerned just with the general flight characteristics of each. In discussing airfoils you will need to be made aware of another term in order to explain how they work. Mean aerodynamic chord, or MAD is simply a line drawn from the center of the leading edge of the airfoil to the center of the trailing edge of the airfoil. We will just call it the “chord line”.

**Under-Chambered Airfoils:** This type of airfoil is considered a very high lift airfoil and used for slow flying aircraft. It is curved upward on the top surface and on the bottom surface. These types of airfoils were most generally used on early pioneering airplanes and WW I aircraft. Models using this type airfoil are usually a bit difficult to build and require a lot of attention to details and relationships between wing(s) incidence(s), datum lines, and thrust lines.

**Flat-Bottomed Airfoils:** This type of airfoil is curved upward on the top surface and is flat, or a straight line, on the bottom surface. Most are not actually flat along the entire length on the bottom surface. Generally the front portion of the lower leading edge curves upward to meet the curve of the top surface. These can be classified as high-lift airfoils and are used on aircraft of moderate speed capabilities.

The most notable of these is the Clark “Y” airfoil as used on the Piper Cub and many other general aviation airplanes. Usually the flat portion of the lower wing surface is in alignment with the datum line of the airplane where the wing meets the fuselage. That installation provides positive incidence because the leading edge of the chord line will be angled upward in relationship to the datum line. The wing should have washout at the tip to equal that angle in order to maintain good flight characteristics. Models built using this airfoil are most often the easiest to build and fly.

**Semisymmetrical Airfoils:** These airfoils are curved upward on the top surface and curved downward (to a lesser degree) on the bottom surface. We will call these general airfoils or high-speed airfoils. Most of the military and commercial aircraft used this type airfoil. They are normally installed with positive incidence at the root rib and have washout in the wings. Some civil aircraft from the Golden Age use these airfoils including the Taylorcraft, Aeronca, and Interstate Cadet. Most modern civil aircraft use it as

well. With the exception of the Golden Age aircraft, most models built using this airfoil will require a higher degree of building and flying skill. Most will have retractable landing gear, flaps and other operating features not found on entry-level models.

**Fully Symmetrical Airfoils:** These airfoils are curved on the top surfaces and the bottom surfaces to the same degree. They provide no lift when the chord line is parallel to the datum line. These airfoils are generally used for stabilizer/elevators, and fin/rudders of scale models.

Now you may think we have limited your choices to trainers or Cub’s. Not so. If your liking is for civil-aviation aircraft your choices are many. There is even a couple of low-wing aircraft for you to consider. One is the Ercoupe. The Ercoupe makes a good flying model with good ground handling characteristics as well. High-wing cabin airplanes from the Golden Age to the present make very good choices. Don’t worry about whether the airplane has tricycle landing gear or is a tail-dragger. There really is little advantage or disadvantage of either type model at this point.

Your choices are a bit more limited on the Warbird scene. Don’t think that because the full-scale airplane was a trainer the model will be a good choice. Most of the single-engine primary and advanced trainers built during World War II for the American services were much more difficult to fly than the fighters the pilots graduated to. That was done for a purpose—to wash out the pilots who didn’t have the skills to perform the required additional workload when piloting frontline aircraft. Similarly, an AT-6 Texan, or at PT-19 Cadet does not make a good first-time model. I would suggest building a model of an aircraft used for Liaison duties like the Taylorcraft L-2, Aeronca L-3, Piper L-4, Stinson L-5, and the Interstate L-6 instead.

On the other hand, trainers built for service in the United Kingdom often make great first-time models. Their logic was that the pilot would advance from one airplane to the next as their skills were acquired. They also did not have the

please see

Scale Plans Building ... on page 7

# Scale Plans Building

continued from page 6

population to afford early washouts. Two of the best UK trainers are the deHavilland Tiger Moth and the deHavilland Moth Minor. The Moth Minor is a low-wing, open-cockpit, tail dragger. The Tiger Moth is an open cockpit, biplane, tail dragger. Both models fly and handle extremely well. I would suggest the Moth Minor over the Tiger Moth because it is much easier to build.

If you have some low-wing flying experience, there are several single-engined military aircraft I can recommend.

- Hawker Hurricane
- Early Supermarine Spitfire
- Curtiss P-40 Warhawk
- Vultee BT-13 Valiant
- Mitsubishi A6M5 Zero
- Grumman F6F Hellcat (don't bother with the wing fold or scale flaps at this stage)

## Wood Kits and Accessories

Many plans designers offer "short kits" and "full wood kits" for their plans. These items may be available from the designer or from a designated kit cutter. Some designers and accessory manufacturers offer items such as fiberglass fuselages and foam wings for the plans. A short kit consists of all the parts that require cutting out such as the ribs and formers and other parts detailed on the plans. The builder furnishes the needed stick wood for stringers, spars, etc. and the sheet wood for covering the fuselage and wings. A full wood kit comes with all the wood materials required for construction. In either case, the builder normally buys the hardware needed for completion.

Other items of interest designed specifically for many plans are fiberglass, resin cast, and vacuum formed parts such as cowlings, canopies, exhaust stacks, cockpit interiors, and other small parts to help detail a model to your desired level of completion. These items will be available from the plans designer or an accessory manufacturer and may be noted on the plans or in a construction manual. →

See Part 2 in September's *AMA Insider*.



**75<sup>th</sup> AMA Anniversary**  
**July 14th - 17th 2011**  
AMA Headquarters | Muncie, Indiana

---

**You're Invited to celebrate 75 Years with the AMA.**  
For details check out [ama75.com](http://ama75.com).

## Don't Miss the 75<sup>th</sup>!

Very soon the AMA's International Aeromodeling Center will be bursting with celebration as we acknowledge the 75<sup>th</sup> birthday of the Academy.

Join us July 14-17 for four days and nights of modeling festivities. See a Hughes H-1 Racer perform flying demonstrations, take a tethered air balloon ride, watch the National Aeromodeling Championships Soaring event, join Astronaut and AMA Ambassador Hoot Gibson in a pool party, learn to fly, and more!

Every AMA member is invited to join us on this momentous occasion. Bring your family, friends, and aeromodeling buddies. This is one event you don't want to miss!

See how one club is spreading the 75<sup>th</sup> news with its membership:  
[bit.ly/jt8sGx](http://bit.ly/jt8sGx). →

## ADVOCACY IN ACTION

★★★★★ [modelaircraft.org/gov](http://modelaircraft.org/gov)



**AMA Government Relations**

The FAA is developing new regulations that may place onerous and unnecessary restrictions on the hobby, sport and educational pursuit of model aviation.

Go online to [www.modelaircraft.org/gov](http://www.modelaircraft.org/gov) to learn about the issues at stake and how you can help protect model aviation.

- Contact Congress
- Meet your Advocacy Team
- Review the Timeline of Events
- Read Articles & Editorials
- Play Podcasts & Videos
- Share on our Forums
- Donate to the Cause



## AMA Vision

We, the members of the Academy of Model Aeronautics, are the pathway to the future of aeromodeling and are committed to making modeling the foremost sport/hobby in the world.

This vision is accomplished through:

- Affiliation with its valued associates, the modeling industry and governments.
- A process of continuous improvement.
- A commitment to leadership, quality, education and scientific/technical development.
- A safe, secure, enjoyable modeling environment.

## AMA Mission

The Academy of Model Aeronautics is a world-class association of modelers organized for the purpose of promotion, development, education, advancement, and safeguarding of modeling activities. The Academy provides leadership, organization, competition, communication, protection, representation, recognition, education and scientific/technical development to modelers.

### ABOUT THE AMA *INSIDER*:

The Academy of Model Aeronautics' AMA *INSIDER* is published electronically on a bimonthly basis for members of the Academy of Model Aeronautics. Its purpose is to create a network of information exchange between the Academy of Model Aeronautics-chartered clubs as well as the Academy of Model Aeronautics officials and chartered clubs.

The newsletter's contents are collected from Academy of Model Aeronautics club newsletters and various other sources within and outside of the organization. Implicit consent to reprint articles found in club newsletters is given whereupon the newsletter editor completed and returned the Club Newsletter Exchange form or initiated contact with the Academy of Model Aeronautics by sending a newsletter, either via mail or email, to the newsletter editor.

Articles or links to outside websites reprinted in the newsletter do not necessarily reflect the opinion of the Academy of Model Aeronautics nor are these articles or links intended to be endorsements of particular products.

Every effort is made to ensure that the information contained herein is accurate; however the Academy of Model Aeronautics is not responsible for errors or omissions. All articles are assumed to be original works authored by club members unless otherwise noted in the AMA *INSIDER*. On such noted occasions, the Academy of Model Aeronautics has been granted permission to reprint the copyrighted material.

No responsibility is assumed, expressed, or implied by the Academy of Model Aeronautics as to suitability, safety, or approval of any material in this newsletter. Any person attempting an action described herein does so at his/her own risk without recourse against the Academy of Model Aeronautics.

Permission is granted to redistribute material found herein given that proper attribution accompanies the article. Proper attribution is defined as the original author's name and title (if given) and the name of the originating club or organization. In the event that an original author is unknown, the editor of the newsletter is a suitable substitution.

The Academy of Model Aeronautics reserves the right, in sole discretion, to edit or reject any material submitted for publication.

### CONTACT US

We welcome your comments and suggestions about the AMA *INSIDER* Please send them to:

#### Newsletter Editor:

Ashley Rauen, ashleyr@modelaircraft.org  
(765) 287-1256, ext. 228

#### Advisor:

Liz Helms, lhelms@modelaircraft.org

#### Director of Publications:

Rob Kurek, rkurek@modelaircraft.org  
(765) 287-1256, ext. 220

### SUBMISSIONS

If you are a member of an AMA charter club and would like to submit your newsletter or an article for consideration. Please send it to us via email or postal mail.

#### E-mail:

We will accept your newsletter in PDF format or as a Word document attached to an e-mail. Please send the email to:

[ashleyr@modelaircraft.org](mailto:ashleyr@modelaircraft.org)

#### Postal Mail:

Hard copies of your newsletter can be sent to AMA Headquarters. Please mail to:

**AMA Newsletter Editor**  
5161 E. Memorial Dr.  
Muncie IN 47302

\*The Academy of Model Aeronautics reserves the right, in sole discretion, to edit or reject any material submitted for publication.

\*All reprinted articles become the property of the Academy of Model Aeronautics.



[www.modelaircraft.org](http://www.modelaircraft.org)  
Tel.: (765) 287-1256 | Fax: (765) 289-4248