

Issue

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BIMONTHLY NEWSLETTER FOR CLUB
OFFICERS AND LEADER MEMBERS

AMA INSIDER



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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.

AMA Vision

We, the members of the Academy of Model Aeronautics, are the pathway to the future of modeling 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.

President to President

SEVERAL AMA PROGRAM DEADLINES APPROACHING

Bob Brown, AMA President, bobb@modelaircraft.org

Deadlines for various AMA scholarships and the AMA Hall of Fame are coming up soon. This year a new scholarship is being offered. The Basil and Dorothy Cooper Memorial Scholarship, established in 2012, will be granted to a current college student pursuing an engineering or technical degree at an accredited four-year institution. Scholarship founder, Basil Cooper, Jr., has established this \$500 scholarship in memory of his parents, Dorothy and Basil Cooper Sr.

Scholarship applicants considered must be in good standing at their current institution and be working toward a degree in engineering or other technical discipline related to science, technology, engineering, and math (STEM) applications. All applicants must be a previous AMA youth member of 36 or more consecutive months, or a current AMA member.

Students will be evaluated on the following criteria:

1. Degree pursued and college standing.
2. Aeromodeling experience.
3. Community service.
4. Extracurricular activities.

The entire AMA scholarship program has approximately \$40,000 available in endowments and scholarships to be distributed in various amounts on the basis of AMA modeling activities, scholastic achievement, and citizenship achievement. Applications are due by April 30,

2013 and they can be found on the AMA website (www.modelaircraft.org/education/scholarships.aspx.)

The AMA Model Aviation Hall of Fame award recognizes aeromodelers whose contributions to model aviation through the years have been outstanding and have improved the sport/hobby and increased its prestige and stature.

Selection for induction into the AMA Model Aviation Hall of Fame is based on the individual's contributions to model aviation, which may include competition, design, experimentation, leadership, education, organization, writing, publishing, manufacturing, or other related activities. Emphasis is on the accumulated contributions in one or more of these categories over an extended period of time.

The program is administered by the Academy of Model Aeronautics. The selection of inductees is determined by the Hall of Fame Selection Committee, which is composed of past presidents and a selector from each AMA district. The deadline for submission of applications is March 31.

AMA will again have a booth at the Southeastern Model Show in Perry, Georgia, March 1-2 (www.gamarc.com/georgia.html). Also on the calendar is the "Toledo Show" at the SeaGate Convention Centre in Toledo, Ohio. See you there April 5-7 (www.toledoshow.com). →

HEART ATTACKS AND CPR

Jim Tiller, jtiller@hotmail.com

On Christmas day of 2012, one of my club members found himself in a bad situation. Shortly after the festivities ended and friends and family members made their farewells, his wife complained of indigestion and asked him to get her an antacid from the bathroom.

By the time he returned, he found his wife face down on the floor. When he turned her over she was not breathing. He immediately called 911 and started CPR. Fortunately, he had completed his recertification in the past few months.

The police and ambulance arrived in less than 10 minutes. Our hero continued his CPR until taken over by the ambulance crew. The paramedics worked for several minutes to restore heartbeat and transported her to the hospital. After several surgeries to open clogged arteries and almost three weeks in the hospital, the fortunate lady came home with no residual injuries. She now is in an intense physical therapy program to ensure that nothing further happens.

The doctor made it clear the severity of her heart attack should have been fatal. If it were not for the quick intervention by her husband, she wouldn't be here to tell her tale. He also informed her that, with women, the symptoms of an impending heart attack are much less severe than they are with most men. It is not uncommon for women to have muted symptoms or even no symptoms at all. In fact, the lady in question had completed a comprehensive physical exam a few months earlier and been given a clean bill of health.

You should know the symptoms and find help if any of those symptoms apply to you. Don't hesitate. It is better to be wrong than suffer a heart attack. If you don't know the symptoms, go to the American Heart Association website. Remember, the symptoms can be very different for men and women. (www.heart.org/HEARTORG/)

Most often we focus on propeller strikes or those kinds of injuries as the biggest first aid concern at the field. This may be true, and I don't want to minimize it, but you should broaden your first aid training. The age of the average AMA member is creeping upward. Health concerns of all kinds are an issue. First aid in these kinds of emergencies is a topic your club should address.

Statistics show that prompt application of CPR doubles a heart attack victim's chances of survival. How many of you could start CPR correctly and continue it for the period of time that it would take for an ambulance crew to reach your field? It would only take a quick poll at your next meeting to find out. The answer to that question could save the life of one of your members.

The simple answer is to urge all your members to renew their CPR certification. The CPR process has changed quite a bit in the last few years. If you have not taken the course lately, you would be wise to do so. Contact your local fire department or ambulance service and you might even arrange for a class for your entire club. The training is not hard or time

consuming. Many classes are just a few hours or less. They are often done at no cost to you or for a donation to their cause.

Your best resource for what might be available is your local emergency responders. You can also go the American Red Cross website and find links to local resources (www.redcross.org/find-your-local-chapter).

Another emergency preparedness item you might want to consider would be a defibrillator. In the past few years, these devices have popped up in many public places. You might have seen them in schools, shopping malls, or other places people congregate. They no longer require training for the operator. They do all the hard parts for you. All that is required is to follow some simple instructions.

I'm sure your field already has a well-stocked first aid kit. You may look into adding a defibrillator to the inventory.

If you bought a unit outright, it will cost in the neighborhood of \$1,500. That might be cost prohibitive for most of our smaller clubs. Once again, ask your local emergency services about obtaining this device. You might find grants or funds that would defray part or all of the cost if your field is considered a public place.

You might want to get the word out in your community that you'd like one. Sometimes, as organizations upgrade their own devices, they donate the old ones as charitable items.

It is not often that the average person is a hero. By giving CPR, anyone can save a life. The story I told you here proves it. →

Leader to Leader

BECOMING A LEADER MEMBER

Rusty Kennedy, Chairman Leader Member Program, rustylm@verizon.net

I have been the chairman of the Leader Member (LM) Development committee for slightly more than two years. It has been a great experience working closely with AMA leadership and staff.

AMA is updating duties and responsibilities for district vice presidents (VPs), associate vice presidents (AVPs), and Leader Members. One of the goals is to have district leadership working together to improve communications to provide better service to AMA clubs and members. It is important that each club identify a member

who would be an active LM working to help their club become knowledgeable about what AMA has to offer.

Club officers should try to identify a member who regularly attends club meetings and events and relates well with other club members. He or she will take on the responsibility of keeping the club members current on AMA news and programs, and pass on information from district leadership. He or she becomes the local "AMA information guy." It's not difficult because everything needed is

online or a phone call away. If you know of such a member, have him or her contact me at amalprogram@gmail.com, or (757) 812-2812.

Contact your VP and/or AVP. Tell him or her who you are and that you are willing to assist him at the local club level. Leader Members have the opportunity right now to help AMA help clubs become well informed of all club and member benefits.

I'm available anytime to help Leader Members understand what they can do for their club. →

HAS FLYING GOTTEN BORING FOR YOU?

Jim Wallen, Club Corner author, sjwallen@tde.com

I have always advertised our sport/hobby as a good place to build and fly in a wholesome, safe environment. While I stand by my statement, I believe it is important to put it in the proper perspective.

Perhaps friends and family are higher on the importance scale than doing a perfect rolling circle or inverted spin. Leading a balanced life while making positive contributions to our society should be placed near the top of the importance scale as well. Every individual has different categories that

add value and satisfaction to his or her life.

Model aviation can be the glue that helps us add value to those things we hold dear and are of the highest importance. Taking a grandchild to the flying field or club meeting might just spark an interest in the child that adds an element of bonding between the youth and grandparent.

It doesn't have to be a child. It could be a coworker or neighbor who could benefit from the new glue in the friendship. In my case, when I go to a

club meeting or to a flying field, I spend a great deal of time just chatting with folks. The conversations do not have to be centered on model aviation. They could be directed to social issues as well as domestic or foreign subjects. If one keeps the conversations constructive, it can be a great relationship builder.

Model aviation, in addition to flying and building, can be the mechanism for bringing folks together and creating good relationships. Isn't it lucky for us to have a hobby like ours that gives us the power to better our lives! →

Editor's Picks

CLUB CHARTER RENEWALS MAILED

Ilona Maine, Safety and Benefits Director, Academy of Model Aeronautics

We are starting to receive the first renewals for the 2013 charter year! Your club's renewal package was sent to the club officer listed in our files as the designated contact as of January 1, 2013.

Your current club charter does not expire until March 31, 2013; however, we strongly encourage clubs to complete the charter renewal forms and return them to AMA as soon as possible. This will assist us tremendously in processing renewals in a timely manner.

If you are completing the renewal information for your club and encounter any questions, please don't hesitate to contact us. We are here to assist you!

Keep in mind that during the rechartering season—generally February through April—we experience a high call volume. If you call us and are transferred to voicemail, please leave a message and we will return your call as soon as possible. You can reach us via telephone (765) 287-1256, fax (765) 286-3303, or email us at clubs@modelaircraft.org. →

CLASS OF 2012 ONLINE!

The biographies for the 2012 AMA Model Aviation Hall of Fame inductees are now available online.

Established in 1969, the AMA Model Aviation Hall of Fame honors those men and women who have made significant contributions to aeromodeling.

The Academy of Model Aeronautics is proud to announce the Class of 2012. Each of these men has gone above and beyond in the name of aeromodeling and we are delighted to have them receive the honor they deserve.

You can read biographical information on all of 2012 inductees by visiting www.modelaviation.com/halloffame2012.

Congratulations to all and thank you for everything you have done for AMA and model aviation! →

BOATS COMING TO AMA

Gary Fitch, Executive Vice President, Academy of Model Aeronautics

Did you know that AMA has owned property with a large pond on it for many years? It is located north of AMA Headquarters in Muncie, Indiana. Through the efforts of AMA Technical Director Greg Hahn, it was developed as a model boat venue called Lake AMA. Not only is Greg a world-class pilot, he is also a big fan of powerboat racing (his boat is pictured).

On July 13-14, the Muncie Racing Club will host the inaugural Irwin Cup model powerboat race on Lake AMA. There will be four rounds of heat racing featuring popular Nitro and Gas classes under International Model Power Boat Association rules and two classes specifically run for beginner, ready-to-run boats.

Spectators are welcome. Bring a chair

and enjoy a day at the lake. Food vendors will be on-site. The race is being held during the Nats.

If you are interested in competing, visit www.modelaircraft.org/files/Irwincupflyer2.pdf for more information.

As an AMA member, you are insured to participate in model boat and RC car activities. This is another benefit of AMA membership! →



A GOOD TIMER IS?

Lenny Brzezinski, Torrey Pines Gulls Radio Control Soaring Society, San Diego CA

Many of us don't realize how big a roll the timer plays in a contest pilot's flight. The pilots who have flown in competition know just how important the timer's job is. Let's have a look at some specific qualities found in a good contest timer. As you read through this, think of your fellow club members. You will chuckle to yourself as you remember which timers are good or bad at the following: the beginning of the contest round, during the flight, readying for landing, after the flight.

Note: Most of these examples are centered on duration-style contest piloting; however, many of these same issues are applicable to your average day of sport flying, or even a fun day on the slope.

What makes a good timer?

When the contest's round starts, a good timer should make sure that his or her pilot has the frequency pin for his or her radio if applicable. During a large contest where a radio impound is used, the frequency pins can become mixed up. Your pilot will be worried about his or her upcoming flight, so you must check to make certain that the needed frequency is clear before your pilot turns on his or her radio.

Before your pilot launches the model, get the timer watch set, take a look at the sky over the launch zone to make certain it is clear. Also, plan your pilot's exit from the launch area. Make sure that you see your pilot do a control check on the model. Make sure his or her radio's transmitter antenna is up. After your pilot's model has come off the towline, you should only be worrying about one thing: getting your pilot out of the immediate launching area.

In a regional-level contest, the launch zone might be full of pilots and timers waiting to launch. Additionally, the launch area will likely be cluttered with generators, extra winch batteries, tools, wires, retriever lines, etc. Your pilot will be unhappy if he or she should trip or fall over an obstacle trying to get to a clear patch of ground.

Guide your pilot to a safe spot, out of the launch area, where he or she has an unobstructed view of the entire field.

You can then gently guide your pilot by clinging to the back of his or her shirt or belt loops, or by holding inside the upper left or right arm. Whatever method you use, make sure your pilot is expecting it. Importantly, the timers' eyes should be focused on the terrain, so make sure to watch for holes, wires, or other tripping hazards.

During the main portion of the flight, your job, as the timer, is to do the following:

- Be an extra set of eyes
- Have awareness
- Help make decisions
- Reduce your pilot's workload

As a timer, don't just stare at your pilot's model as it glides around the sky. You are your pilot's extra set of eyes. Scan the sky for signs of rising air; lift. Look for other models or birds that may be flying in a thermal, and keep an eye on the ground signs, too. Your eyes can cover the air that the pilot's eyes cannot.

Speak with a calm voice; don't sound panicked or worried. Then, provide your pilot with clear, concise communication of what the lift conditions are. Don't give your pilot useless information. As an example, if your pilot's sailplane is way downwind and totally committed to the only thermal in the area, telling him/her about the huge thermal sucking the competition into the clouds half a mile upwind is useless. In fact, it hurts the pilot more than it helps.

If you should see a promising chunk of air within reach of your pilot's airplane, position yourself in front of the pilot and use your arm to point at the area where the lift lives. Use your arm to draw a line in the sky, one that the pilot can see with only peripheral vision. While steering the pilot into lift with instructions, say things like "airplane right, keep coming right, okay roll out, fly that heading." Remember that there will likely be sinking air in the path that the sailplane must fly on the way to the lift, so don't let your pilot fly his or her sailplane away from the lift. Tell the pilot, "Push your airplane through the sink." Also, the pilot will occasionally find that his or her model's flight has flown into trouble.

For example, the model might have gotten very close to the ground two minutes into a 10-minute flight. Then, if your pilot should find a small patch of lift, he or she must stay committed to the new thermal the model is now flying in. This is a time when, as a timer, you may watch only the pilot's model. Let the pilot concentrate. Do not overload him or her with too much information. It is helpful, however, to occasionally say things like, "That looks good, keep flying smooth," or "Stay with the thermal's drift." If you know for certain where the thermal has moved, you might want to tell the pilot where it is in relation to his/her sailplane.

Again, use an easy voice, and don't give too much information. Keep the pilot calm and focused. Sometimes, all you need to do is confirm what your pilot is seeing his or her model do, or how he or she feels about the situation. The pilot might say something like, "What do you think of that turn? Is my model climbing?" or "Are those models above me still going up?" Sometimes, just hearing the timer confirm what the pilot thinks is happening is worth a lot to the pilot's confidence.

Landings

Landing a model sailplane on a tiny target, at a precise moment in time, is the single most difficult task a pilot must perform during a contest flight. This is especially true in Thermal Duration contests, but is just as important in other types of timed duration flight tasks.

As a timer, your job is very important during this phase of the flight. Some of the timer's tasks during the pilot's landing phase should have already been taken care of before the flight. You and the pilot should agree on the countdown (or count up) that he or she wishes to hear.

As you approach the landing zone, walk your pilot into position so that he or she can see the landing target as the model will turn onto its final approach. Now, with the pilot in position, make sure you are standing behind the pilot so that

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IS?

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EYE SAFETY

Brett Ohnstad, Anoka County Radio Control Club, Inc., Minnesota

I was sitting at my workbench pondering the idea of the senses and what it would be like to live without one of them. Now I am not talking about my sense of style, or my common sense, or even my sixth sense. Rather I am thinking about the five basic senses: touch, taste, smell, hearing, and sight. Of these five senses, I would think that most people would be most set back if they lost their sight. It's not that the other senses aren't all important, but I believe that I could still drive my car if I should lose my sense of humor, granted it wouldn't be as much fun.

Although there appear to be no statistics kept on the number and types of eye injuries that occur each year in the RC community, we can use information provided by the Bureau of Labor Statistics (BLS) and OSHA to get an idea of what the risks are for the general public. The BLS states that there are several major contributors to eye injuries in the workplace, which include:

- **Flying objects.** More than half of eye injuries are caused by flying or falling objects.
- **Improper equipment operation** is responsible for more than 30% of eye injuries.
- **Contact with chemicals** causes some 20% of eye injuries.

Many injuries could have been avoided or reduced had it not been for poor choice of eye protection, improper fit, or even lack of awareness for the need for eye protection. OSHA reports that a majority of the injuries occur with people who are not wearing eye protection or are wearing improper or poor-fitting eye protection—a statistic we would expect if eye protection is in fact working.

How does this relate to the RC pilot? There are plenty of dangers at home and at the field that you should look into for eye safety.

If you work with chemicals such as glues, solvents, and fuels, you are exposed to potential chemical contact with your eyes. If you read your material safety data sheets on the particular products that you use, you will have an idea of what to do in an emergency. Working with power tools such as

sanders or high-speed rotary tools are other obvious times to wear eye protection because of dust and small material that these tools can send flying into the air.

Charging batteries for your model can also pose a potential risk in that an old or damaged battery can leak, outgas, or even explode. Even testing an engine, be it gas or electric, can have the potential to damage your eyes. Tiny debris kicked up by the propeller blades could easily cause damage to the eye. Fuels can spray from the muffler. The blade could even become a projectile if it is damaged or dislodges from the model (tighten that propeller nut please).

At the field you are exposed to a wide range of potential dangers caused by the weather and by other pilots. It is all too easy for an insignificant propeller strike to result in a pebble-sized missile being launched in your direction while your focus is on your airplane. When we are flying combat the rule is that everyone needs to have on a helmet, but safety glasses should also be worn.

And don't think that indoor flying is any safer because of the smaller size and slower speed. I have seen several instances of micro helicopters, Vapors, and other featherweight models flown in close proximity to my fellow pilots with a number of unintentional head shots and body blows. Fortunately, no injuries have occurred, but I think that it would be wise to have eye protection. Again, when you are focused on your airplane, it is easy to lose track of others in your vicinity.

It's not just physical items that can damage your eyesight. When staring up into space, you have to be wary of the damage sunlight can have on your eyes. Believe it or not, you can just as easily damage your eyes on a cloudy day as you can on a sunny day. This is because a large, white cloud can bounce more of the sun's energy back to your retina than an azure sky, especially if the cloud is in direct sunlight, resulting in something akin to snow blindness. Not only do sunglasses protect against damage from light and ultraviolet rays, they can help by reducing eyestrain giving you longer, more comfortable flying times. The sunglasses can also work as your first line

of defense for general eye safety.

What type of safety glasses should you use? Although wearing any kind of protection at all can be better than no protection, OSHA recommends wearing safety glasses that have passed safety testing and, as such, are labeled as Z87. These glasses are tested by having a ¼-inch BB shot at them at 100 mph and have had a one-pound, pointed weight dropped from four feet without breaking the lens. Prescription safety glasses only need to pass a lower level safety test to be used as safety equipment, however if they are strong enough to pass the higher test rating they are then labeled at Z87+.

Keep in mind that polycarbonate lenses are much more impact resistant than glass or plastic lenses as the latter two can shatter, however they are more prone to scratches if they do not have a scratch-resistant coating. If possible, find a set of safety glasses that also offer protection for sunlight for total eye protection.

Still don't think you need eye protection? Reread this article, but this time; try it with your eyes closed. →



**LEARNING
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S PROCESS**

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BASIC SERVO LINKAGE GEOMETRY, PART 1

Jack Sallade (jack@flyrc.info), www.flyrc.info

When setting up our model aircraft we often make decisions on which servo arm or control horn to use on a given flight surface. Of course the torque and speed rating of the servo comes into play as well but I'd like to discuss the linkage geometry so you can understand what effect these decisions have on how the airplane flies. Here's the basic idea.

When you choose equal length, standard, one-inch control horns and servo arms and use the outermost holes to attach the linkage you are getting exactly what the manufacturer advertised. A 10° rotation of the servo arm will also rotate the control surface 10° and will do so while applying (as needed) the specified torque. Let's use a Hitec 425 operating at 4.8V as an example.

This servo produces 46 oz/in of torque. This would be an appropriate choice for a standard 40-size trainer. Using the standard arm and horn, this should give adequate service in this application. But what if you now move on to something a bit more interesting? The manual calls for these same servos on your new mid-wing, semi-aerobatic aircraft, but because of the way the pushrod guides are routed, it

appears that you are going to need a two-inch servo arm. (Okay my example is a bit extreme but work with me here!) Are your servos still okay for this airplane? You didn't change anything important right? The answers are maybe and you definitely did!

In reality the servo horn and control linkage are levers and, like any lever, increasing or decreasing the length of that lever on one side of the pivot point will affect the amount of force being applied as well as changing the amount of travel. Force and distance of travel are essentially a tradeoff for one another.

In the case of the servo arm, lengthening it will effectively lessen the amount of force the servo is applying to the surface while increasing the surface travel. Looked at in reverse, the surface is "pressing against the servo" the same amount, but you've given it a longer lever to push on, increasing the force needed from the servo to push back against it. Shortening the arm will effectively increase the force applied while decreasing the available travel. The exact opposite applies to the control horn attached to the surface. In our example we made the servo arm twice as long so

we decreased our force applied from 46 to 23 oz/in while doubling the travel. This is a simple ratio of control horn over servo arm length $\frac{1}{2}$ times the amount of torque produced by the servo. Note that because this is a ratio, if we use any equal length horn and arm we have actually changed nothing. Getting back to our example, you may have just created a big issue.

Not only have you now drastically cut the amount of torque available, but making the control surface move that much farther only increases the amount of wind resistance that surface is likely encountering. That first high-speed dive and attempted pull out could be the last for that aircraft. Once enough air is flowing against the surface at a great enough angle to need more than the available torque, the servo will simply stall and the surface may even blow back as the forces grow. Without an understanding of the linkage geometry the following is likely to be heard soon after: "I pulled and it just didn't respond!?! It must have been a radio problem!"

In part two, I'll discuss some ways to use this knowledge to do more than just avoid disaster! →

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you won't block his or her view when he or she turns to follow the sailplane through its approach.

Read the stopwatch carefully. Do not look at the model all the time during the last minute of its flight. Make sure you are calling out the seconds remaining in the flight accurately to the pilot; not the crowd. Ensure that you make your pilot aware of the strange conditions in the landing zone. For example, has a big thermal just blown through the area, which may cause a momentary downwind for the sailplane during its final approach? Has another model just landed short in front of your pilot's landing zone?

Make sure the landing area is clear. Finally, as the model turns onto final approach, raise the watch and look over the pilot's shoulder, while keeping the watch, in the landing zone, and the model all in the same field of view. Use this technique to ensure that you stop the watch at the proper time when the flight ends. Also, this method will help you to be aware of an errant overflight of the landing zone by your pilot's aircraft.

After the flight

A good timer will review the flight with his or her pilot. As a timer, you should ask how your pilot felt about the flight. Was

there something you could have done better? How can you better help the pilot during the next round?

Note too, you should never clear the stopwatch until after the flight scores are turned in, just in case there is a question. Typically, the timer will help the pilot by turning the radio and score card back into the impound area. At this point, be certain that the radio is off before giving it to the impound person. It is worth mentioning that there have been many airplanes lost due to radios being left on when they were turned into impound.

Timers are important

The timer is an important member of a small competition team. This team's goal is to complete the event's task. The timer cannot function as an impassive observer who just reads a watch. The timer has an important job to do. He or she can make the difference between winning and losing the contest, having the pilot's airplane suffer an off-field crash, or alternately taking the model up to "speck" altitude.

The final flight decisions made during any flight rests solely with the pilot. However, a skilled timer can and will significantly reduce the pilot's workload, thus helping to ensure competition success. →

HOW TO ADD SKIRTS TO YOUR RETRACTS

Ralph Doyle, Spirits of St. Louis R/C Flying Club, Inc., Missouri

Do you have an airplane and installed set of retracts, but don't like the look of those bare wire struts? Adding skirts can reduce the ugliness of those wires.

I found a simple solution to the problem of adding skirts that requires very little adjusting and what adjusting there is, is easy!

The bill of materials includes:

- A piece of $\frac{1}{64}$ - to $\frac{3}{32}$ - inch thick plywood (or basswood) big enough to cut out two skirts. I used $\frac{1}{64}$ inch on my .60 size airplane and $\frac{3}{32}$ inch on my larger models.
- Two wheel collars
- Two screws and nuts (size depends on wheel collar size)
- Two hinges
- Two wood screws

Picture 1 shows the assembled parts. Note that the retract motor in the picture is an electric one, and I was able to use one of the screws in the retract to mount the pivot hinge.

The hinge is held to the skirt with a small wood screw. Use a wheel collar that is large enough to slide up and down the strut; no fancy wiring or hinges are necessary. Also, adjusting the length of the screw allows the skirt to lie as flush as possible to the wing just by lengthening or shortening the screw. The nut is used to hold the screw to the skirt.

If you are using Rhom-Air retracts, there are no mounting screws available on them. The hinge must then be glued to the wing.

Picture 2 shows the finished installation. →



TIPS & TRICKS

The following are from the newsletter of the First State R/C Club, New Castle DE

Preventing covering from peeling up

If you are having problems with your model's covering peeling up at the edges and it will not iron down, CA glue can fix it. I use a regular super glue dispenser to wick CA like a pen along the overlapping MonoKote joint to seal it permanently. After the glue has dried, I wipe off the CA haze with a damp cloth and I am finished.

Done carefully, this works great and even glow fuel will not peel it up. This can also be used to spot the corners of the lettering any pin striping. If you make a mistake you can clean it up with acetone on most non-fabric coverings.

Always wear safety glasses when using CA glue as it can easily splash or flick into your eyes (source: www.rcdon.com/html/hints_and_tips1.html).



How to iron MonoKote into tight spaces

I used to have a lot of trouble ironing MonoKote into cockpits and other small places where a standard iron will not fit.

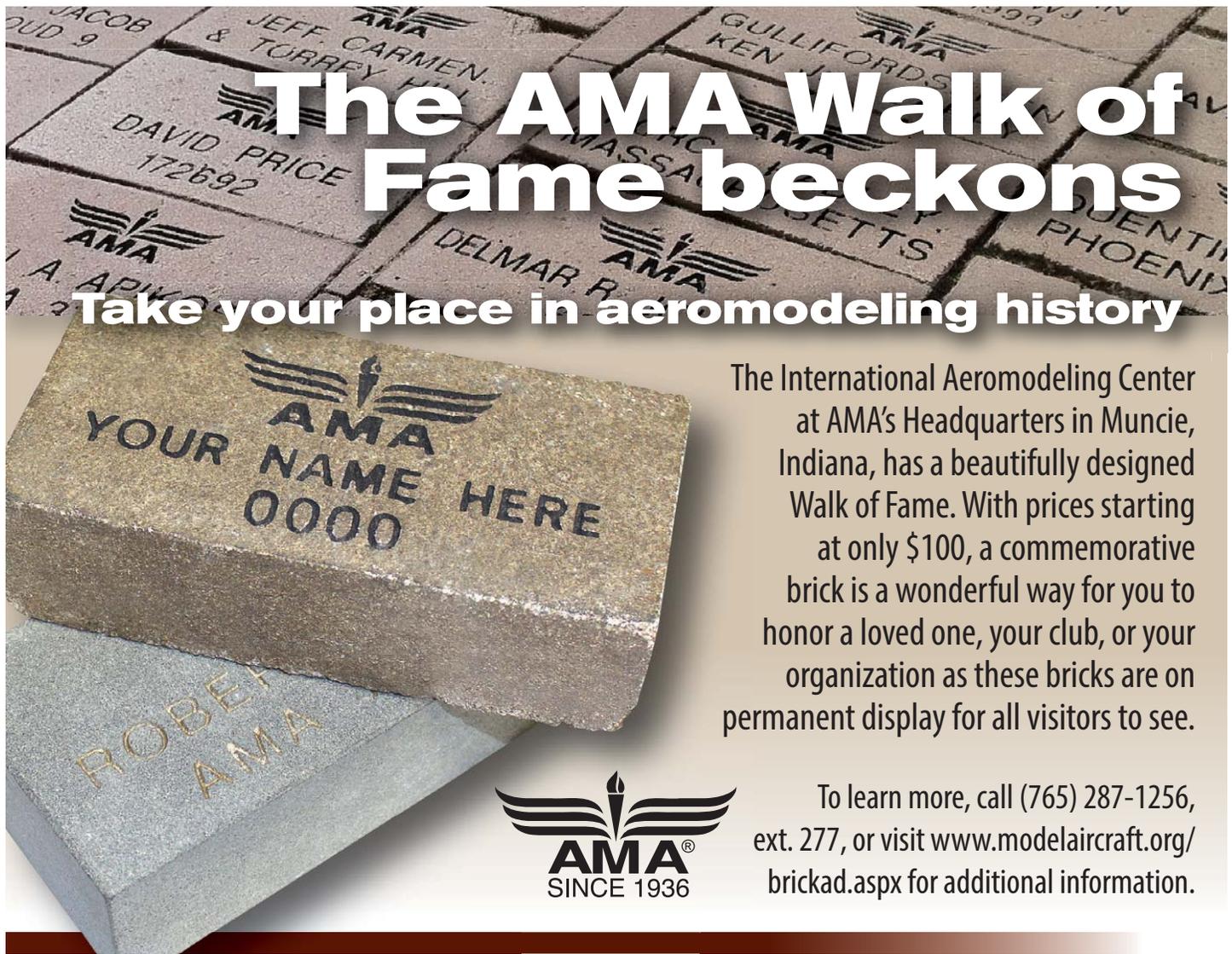
You can buy a tiny iron called a trim sealing tool. I had one of these for a short time, but the temperature control was inaccurate, and the shape was not very helpful, so I got rid of it.

A better solution to this problem is a butter knife. Heat it on your iron for about 30 seconds and use it like an iron. It could also be heated with a heat gun, but take a bit longer. Heat is transferred a lot better by contact with the metal iron.

The knife will fit into tiny spaces where an iron won't, and it will reach a lot farther than the trim irons that you find in the hobby store. I used a butter knife to iron the entire cockpit of this Small Wonder, built from RCM plans.

You can try the same trick with a spoon for ironing fillets and other concave surfaces. Spoons have to be heated with a heat gun rather than an iron (source: www.balsaworkbench.com/wp-content/uploads/2013/02/knifeheat1.jpg).





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