



**PRESIDENT TO PRESIDENT**

## A Father's Push to Model Aviation

by Dave Mathewson, AMA President

I'm sitting here punching out this column the week before Father's Day. If she had a chance, the *Insider* editor would probably tell you that it's really the Friday before Father's Day and this column is already several days late. But that's another story!

Like many of us, I'll be spending some time with my dad on Sunday. I consider myself pretty fortunate that I still have the opportunity to do that. It's because of my dad that I became a modeler. Like most kids, I was involved in the typical activities most kids were growing up: sports, played in the school band, and was involved in some extracurricular school activities. But the one thing that maybe wasn't quite as typical, and the one thing I enjoyed the most was model aviation—building and flying model airplanes.

Almost every weekend when the weather was good I'd head to the local flying field with my dad. Of course, there was always the stop at the local ice cream stand on the way.

Depending on how things went, sometimes there was also the additional stop on the way home to help ease the pain of picking up the pieces of a model that didn't fare so well that day.

When the weather wasn't quite as nice, we'd head to the basement to build our next models. My dad, who doesn't fly much anymore, was a good flier and a great builder. In fact, I learned so much from him in that shop that it gave me the skills needed to be successful in my eventual career.

I can remember when iron-on coverings were first introduced to modelers. He gave it a try. The model came out like most of his models but his only comment was, "Nice stuff, but not for me." He liked silk and dope, something some of our younger members have probably never heard of.

When I got married and had kids of my own, as most of us do, I tried to continue the family tradition. Both my son and

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**CLUB CORNER**

## The Club Corner

by Jim Wallen, *Insider* Club Column Editor

What do you think is the most important thing that keeps our flying clubs active and growing? We all know that our clubs are the focal point of some great social activity and a great place to fly the projects that are our pride and joy.

Everything becomes secondary however, if we do not maintain and improve our flying sites. Providing a safe, comfortable, and well-maintained site is the glue that holds the club together. Without the field, clubs will fade away.

There is a financial burden we must bear in the maintenance and improvement of the flying fields. Dues are the primary source of getting the basics done. That is how we pay for the bucket of paint, gas for the lawnmower, repairing the start-up

table, and other day-to-day needs. If major projects or large repairs are required the clubs must delve into the arena of fund-raising.

What techniques are effective in raising the cash requirements? Let me name a few that come to mind.

Auctions are a good way to raise some cash. Have members clean out their rebuild areas and donate items they no longer use to the club auction. Partnering with a community charity and sharing the proceeds works well. Social events such as "pancake feeds" work for some clubs. Don't forget that AMA has a pool of cash available for

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# Thanks to the Masses!

Contact Don at [flyerdon1@yahoo.com](mailto:flyerdon1@yahoo.com)

Don Nix, *Insider Safety Column Editor*

A number of members gave me an abundance of fodder for my literary cannon this issue.

Joe from Doylestown Township, Pennsylvania, wrote a nice compliment, and told of losing their public flying field because a non-club member crashed his model into the county prison across the road. Unfortunately, no club member was present when the incident happened. I was just wondering, Joe: if the model had taken out a hardened criminal, d'ya' suppose the officials might have withheld their complaints?

Mike from Maine commented about the incident involving the beginner flier who rather impolitely refused help from one of our instructors, launched with his elevator reversed, and naturally splattered the model. I explained that since it was a public field, our club had no authority to stop the young fellow from flying.

Mike told about a friend asking for help flying the friend's new trainer. Mike noticed the owner only had six rubber bands attaching the wing, and suggested adding at least four more. The friend insisted he had used six "just as the plans instructed." Many of us have witnessed what a model wing looks like when it flutters to the ground while the rest of the model becomes a very expensive lawn dart.

This story reminds me almost exactly like one I witnessed many years ago at our field. All of the very strong urgings from several of us failed to convince this individual that he needed more than four bands—two on each side. He never finished the first turn after takeoff. Now wouldn't you think the guy would have had the grace to say, "Fellas, you were

right. I should have listened." Typically, he gathered up his trash, tossed them into his car and drove away without a word. We never saw him again.

As I might have mentioned, my wife and I are full-time RVers. We call ourselves "The Meanderthals," and wander all over our beautiful United States. Every once in a while we have the opportunity to stop at a local flying field. I just got a very nice note from Dean Nichols of Wanatchee, Washington, commenting on my mention of their local club field.

At present, we are near Asheville, North Carolina. From here, we will head northward to the Midwest, then on across into the northeast. With luck, we should be able to visit other club fields along the way.

After watching the third-from-last Space Shuttle launch at the Cape on May 14, we went on down to Vero Beach to visit longtime good friend, fellow modeler, and full-scale pilot, Dave Von Linsowe.

Some of you might remember Dave as a member of the US World Model Aerobatic Team some years ago, and as a many-time participant in the Tournament of Champions in Las Vegas.

Dave lives the dream of many of us who also fly full scale. He taxis his full-scale Pitts S-2B out of the hangar attached to his house onto the gorgeous grass strip of the private airpark where he lives and flies. Oh, does he fly!

Although I was very active in full-scale aerobatics back years ago, I hadn't flown any in more than 20 years. Dave was gracious enough to let me play for a while. My wife is going to have to get a

full-time job so I can afford to do that again!

The above does relate to safety, because I can tell you that when you are in the airplane, inverted, a few feet off the ground, you are most definitely being careful! One air show pilot friend used to completely recover his Pitts every four years or so. I asked him once why he did it, and he replied, "Oh, I just thought the airframe might need looking at."

When I asked what he saw after pulling the covering, this laconic Texan replied, "It needed looking at."

The point, in case you missed it, is that when your fanny is in the airplane, you are careful. We should be no less careful when flying models. Our toys are quite capable of injuring and (sometimes) killing others, if not ourselves. The Shuttles are infinitely more complex structures than our models or full-scale airplanes, but with all the countless months and decades of preparation and learning over the years, there have been three fatal accidents during the life of our space program.

I had intended to use some items from Charlie Castaing of New Iberia, Louisiana, along with a photo of him at his club's field, but I've run out of space. Next time.

Meanwhile, soon after you read this the Nats will be in full progress. For those who have never attended one, either as spectator or competitor, I would urge you to do so. I can assure you that safety will be right at the top of the officials' priority lists. Besides, a visit to your national flying site will be an eye opener you won't soon forget. We intend to be there July 5 for opening day. →

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club site improvement projects that can fund 10% of the project cost.

AMA has recognized that the subject of fund-raising is important on both the local and national level. Chris Brooks at AMA Headquarters has taken on the challenge of addressing our funding needs. If you, or your club, have some creative ideas in addressing fund-raising at the local level, send Chris an e-mail so he can share your thoughts with other clubs. Chris can be contacted at [chrisb@modelaircraft.org](mailto:chrisb@modelaircraft.org). →

Need Articles  
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Club's Newsletter?

Visit the newsletter archives  
online at

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

The Archives section of the *AMA Insider* Web site is a great resource for construction, safety, and how-to articles as well as hints, jokes, and cartoons all for you to use in your club newsletter!

# What Does it Mean To Be A Leader Member?

Frank Geisler, Chairman Leader Member Program Development Committee

My name is Frank Geisler and I am a member of the Gloucester Area Modelers Association in Gloucester, Virginia. I have recently been appointed by Dave Mathewson and Jim Rice to chair the Leader Member (LM) Program Development Committee. I was reluctant at first to accept the position, but when I read our mission statement below, I soon realized that LMs play an important role in the AMA and I thought I could make a difference in helping to develop LMs in the AMA.

*“The AMA Leader Member Committee is tasked with developing new and creative ways to communicate with, and utilize, the diverse education, motivation, and talents of our Leader Members. This potential volunteer force represents nearly 3,000 members that could benefit the Academy and the general membership.”*

I am in the process of assembling my committee and I look forward to working with other LMs to help make the Academy and the sport of model aviation prosper.

In discussions with other Leader Members in my district, the questions I hear most are; “What does an LM do besides vote on bylaws?” or “How can we get more involved?” However the one concern that seems most disturbing to LMs is “the AMA does not utilize their Leader Members enough.” I hope to answer those questions and address the concern in this column.

First, we need to review a few definitions. We know what the *AMA Membership Manual* states about an LM. Two key points I'd like to note: “The Leader Member is identified as an individual performing an above average interest in the Academy and its functions” and “The Leader Member is the highest level of membership...”

Webster defines a leader as “a person who leads: as a *guide*.” LMs, due to their dedication, use influence, talent, and skills to help guide members of the AMA, their districts, and clubs in their areas for the betterment of the Academy and most importantly model aviation.

There are many reasons why each of us became an LM, but I'm sure it all boils down to this; we wanted model aviation and the AMA to prosper. We all felt that we could help accomplish

that goal. We wanted to belong to a first-class organization that helps promote model aviation and is also focused on people willing to help others. LMs by nature should all share this common denominator of having a positive can-do attitude or we simply would not have sent in our application to become LMs.

We should all take a step back and examine the issues that concern us the most and see what we can do to fix them. As LMs we should not sit idle and instead take action to correct things that we see are wrong.

Few are in a better position to correct things happening in your district or club than you are. When was the last time you e-mailed the other LMs in your district? Have you checked the AMA's Web site to ensure your club's contact info and Web site are correct? Have you checked on other clubs in your area? It sure is frustrating to attempt to contact a new club via the AMA Web site and discover the e-mail or Web site address is a dead link. These are a few very simple things each of us can do in a matter of 15 minutes that can help open up the lines of communication.

My committee can't do this alone. We are seeking ideas that will help energize the LM program and I support this effort whole heartedly and look forward to LMs across the US taking on more active roles in an effort to help promote model aviation.

As you know, the AMA has established a forum where AMA members can discuss issues openly with each other. Unlike other forums, moderation in this forum supports open communication, but does not tolerate personal attacks, so a person can post there without fear of being attacked because his or her opinion may differ from another's. In that forum, a LM section has been implemented that is only available to LMs. Currently, more and more LMs are being added.

If you have not received an e-mail yet, please go to “Ask AMA” and send a request to Greg Minch and ask that you be added to the list of LMs. Be sure to include your name and AMA number in your request. Please stop in, introduce yourself, and share any ideas and concerns you have with the other LMs posting in the forum.

I am looking forward to working with you to help promote model aviation and the Academy. →

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daughter grew up at the field. And while neither are active modelers right now, I'll bet at least one will fly again someday. And, it's a pretty safe bet that their kids will get the chance to fly, too.

So, what's the point of all this? My point is that model aviation is a terrific educational and recreational family activity. It's something that families can do together—and there are many AMA families that do just that. It's fun and, like me, you may learn a thing or two along the way.

Next time you head out to the field, think about bringing someone along with you to share the day. A husband, a wife, son or daughter, or maybe even a brother or sister. I'll bet they'll have a good time and you'll both enjoy the company. You might even create a new modeler along the way.

Thanks for letting me reminisce a little bit, and to all you dads, a belated Happy Father's Day.

See you next time ... →



*Don't miss the 84<sup>th</sup> Annual OUTDOOR National Aeromodeling Championships taking place at the International Aeromodeling Center in Muncie, Indiana.*

**July 5-August 12, 2010**



# Understanding Deans Connectors

By Phil Laperriere

As I continue to discover more and more about the mysteries of electric flight, I'm never surprised when something that I initially think is a big problem turns out to have a simple solution once I understand the nuts and bolts about it. I'd like to share one of my latest learnings that supports this truth.

I've always been very mechanical and understood mechanical things. I also have always had a great deal of confidence about using tools and getting the feel for them very quickly in order to make them work for me. That being said, I found myself getting a little rattled just using a soldering gun as I was putting together the "system" on my first electric-power project. After purchasing the motor, speed controller, and battery, I eagerly started to string things together.

I started by soldering the bullet connectors to the three wires coming off the motor. I spoke with Matt at the Prop Shop and he instructed me to fill the pocket of the bullet connector with molten solder, then plunge the wire in, holding it until the solder cooled. The first obstacle I had here was that I simply didn't have enough hands to hold the clamp while trying to melt solder into the bullet connector. I overcame this by wrapping a rubber band around the handle of a pair of needle nose pliers. I was then able to position the bullet connector with no problem for assembly to the wire. I also quickly realized I had to slide the shrink tubing as far up the wire as possible before putting the bullet connector on. There is enough heat transmitted an inch or so up the wire to shrink the shrink tube.

Now it was time to solder the Deans-style connector onto the battery leads and the speed controller. One month ago I didn't have the foggiest idea what a Deans Connector was. Now, here I am buying them at the Prop Shop and trying to tie them into my power system.

I read the instructions on the back of the pouch that the connector set came in, and the instructions told me to tin (pre-apply solder) to the wires and connectors then touch the two together, add a little heat and you should have a good bond, ready for shrink tubing right? Wrong! By the time I was able to melt the solder on the connector, the tab had melted the outside of the connector, allowing the tab to move out of position. Also, it seemed like an extended period of time before the solder would cool enough for handling due to heat being retained in the connector body. I also found that the bond between the wire and the tab was not very strong and was easily pulled free.

After a long frustrating struggle, I was successful at getting one set of connectors soldered in place. However, when I tried to plug the two connectors together, the tabs were so far out of alignment due to the melting of the outside shell, they simply would not go together. After ruining three or four pairs of connectors, I finally stumbled upon a solution.

I found if I first plugged a set of connectors together and afterward started the tinning/soldering process. I had much better success at a well aligned connector. I also noted that the solder joint seemed to cool quickly along with the tab alignment remaining intact and showing great bond to the wire. Having the connector plugged together also gave me enough material to hold in a vise for soldering. A couple of other observations I

want to point out that seem to make sense to me after going through the process of assembly are as follows:

- Lightly sand the tab where you intend to solder, giving the material an opportunity for "tooth."
- Always assemble the female portion of the connector to the battery side. By doing this, you won't be as likely to inadvertently short out your battery because the terminals are not exposed.
- Maintain a standard for your connectors for positive versus negative. Doing this, you'll finally have flexibility for switching between batteries and speed controllers. Typically, Deans Connectors recommend the wide end be utilized as the positive side.
- Have an extra set of connectors available that are used only for the assembly process. This way you won't power up the speed controller when doing assembly. Also, if you do utilize a set only for assembly, be sure to put the shrink tube over the exposed terminals to minimize the risk of a short.
- Use shrink tube over your solder joints. Shrink tubes serve two purposes. First and foremost, it acts as an insulator, minimizing the potential for a short. Second, it adds strength to the wire just behind the solder joint reducing the opportunity for wire fatigue.

Good luck and don't let the electricians scare you. I've been finding that when I first started getting involved with electricians, the amount of confusing information was intimidating. Learning and understanding a piece at a time starts to add up quickly, making the process manageable. Hopefully I've been successful giving you a tip that will help you in your own building. →

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From the Society of Antique Modelers, the Central Coast Chapter [26]

## Shop Preparation for Engine Running

When we acquire a used engine that flips over okay, and generally looks and feels like it should run, it will usually do so. But, about half the time it may need some tweaking to exorcise some little problem that made the owner sell it. For this, a good mechanic is more helpful than a priest. For those of us who can't or don't like to run 'em at home, there are some basic things to check out before taking it to the field running session, and maybe being disappointed.

Checkout amounts to more than seeing if an engine props over okay and a glow plug lights. If the engine is stiff or frozen up you'll need to loosen it first thing. A glow engine was no doubt run on glow fuel, but if it's a sparker, it might have been run either on gas and oil or glow fuel. A glow plug in the head and a missing timer is a pretty good clue. A further test is to use a little of each fuel on a rag to wipe away some of the goo. The

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# Circle Trim

By Aaron Peterson

For several years, I've been exploring the Circle Trim flight adjustment system for rubber-powered (and now electric) sport and scale models. To begin with, I wanted a scheme that would a) give a good, solid, predictable procedure; b) allow me to fly in confined spaces when desired—gyms, armories, city parks, school yards, etc.; and c) produce good contest results indoors and out. All objectives have been met. I can trim most new models quickly and effectively.

I can fly in small spaces (when the wind is down). Using Circle Trim, I have won 10 straight local outdoor Embryo Endurance events and have attained a 97.8-second contest flight under a 30-foot ceiling with an Ord-Hume 7 Walnut model that weighs 20 grams without rubber. Maximum climb or steady low cruise: it works for both.

The basics of Circle Trim:

1. Wing wash (vs. turn) to control back angle;
2. Rudder offset to establish the cruise/glide turn;
3. Forward CG and matching (usually generous) decalage; and
4. Thrust offset to control power climb and turn as necessary.

This system is hardly new. The 1933 Jimmie Allen Bluebird plan shows considerable wing wash to offset torque—the keystone of the whole idea. One can find good references all through modeling literature—Dick Korda, Henry Struck, Butch Hadland, Bill Warner, Wm. McCombs, Tonda Alfrey—all of these experts (and many others) have laid it out at one time or another. Power fliers use washin to stabilize climb turn. The famous Square Eagle P-30's success is partly based on Circle Trim. Many of you are now using Circle Trim, even if it's a matter of pasting a drag flap onto a wing trailing edge.

So, I have invented nothing, but maybe I can offer a few little slants on the subject that might be of use. One thing's for sure—I'm sold on it!

Many construction articles (and some kit instructions) admonish you to build

everything straight and to steam out any and all wraps. On that point they are clear, but when it comes to flight trimming, things muddy up very quickly.

Often it seems given that if the precious model is only built "correctly," it will fly with little or no trouble at all. We all know that is not the case! Indeed, a normal sort of model can be trimmed to fly okay in a large circle or in a large "s" pattern just by getting it balanced properly, maybe giving it some downthrust, and tweaking the rudder to the right to offset torque. Maybe some hot breath on the stabilizer. But those aren't the kinds of patterns I want, indoors or out. They take up way too much room, and the model either hits a wall or grows smaller and smaller in the distance as it heads for the trees. I like to see my outdoor airplanes fly, especially the scale jobs. I want them close at hand, overhead, with the sun shining through the tissue. (Not that an efficient high-powered model like an Embryo can't get really high in a hurry with Circle Trim. It most certainly can.)

Circle Trim starts in the building phase. Several factors ought to be incorporated right in the structure. The first thing to decide is which way you want the model to turn—left or right. Indoors, I definitely believe that left is better, Right turns get you to the ceiling too fast. Outdoors, I don't think it makes any big difference, at least for high-wing models. I've flown sport models and old timers that had big climbs, nice glides, and good thermaling behavior in both directions, right and left.

Supposedly it's better to fly a freewheeler to the right, though I've seen no proof of that in my own models. Because of torque effects, a right-hand pattern will require less side thrust than a left-hand pattern. Some left-hand models require huge amounts of right thrust. Anyhow, once you decide which way to go, something has to be done to the wings to oppose that turn direction. You can washin the inside wing. You can washout the outside wing. You can make the airfoil of the inside wing 15% thicker than that of the outside wing.

All these devices work, but there's

another way, a refinement that I prefer above the others: differential washout. We know, of course, that washout is desirable for stability, indoors and out. Washin can shoot you down (via tip-stall) if you hit a ceiling or a gust. (Never washin both wings!) Washout each wing, but to differing degrees. On a Peanut flying to the left, washout the left wing  $1/16$ -inch, and the right wing about  $5/32$ -inch. On a Bostonian, make it  $1/16$  inch and  $1/4$  inch. On a 24-inch model, make it  $1/8$  inch and  $7/16$  inch. My Howard GH-1 (32-inch span) has a  $1/16$ -inch and  $1/2$ -inch setup.

A heavy model might require a bit more differential. It's not critical. Just so you have that good solid influence vs. the spiral, yet not so much that your rudder has to be offset unduly to overpower the wing wash in the glide, thus requiring even more side thrust to offset the rudder in the climb, etc. It all works together, you see, keeping a nice steady circle all the way up and all the way down. A hinged rudder (or tab) is a big help in all this, possibly even essential. Glue it fast when the final set is found.

With a new model, use rudder offset, CG, and decalage to set the desired turn and glide. (Hand-toss or fly under low power.) Then slowly build up in power, working thereafter almost solely with thrustline (noseblock) offsets to control the climb and/or cruise. Use downthrust to stop zooms or stay away from the ceiling. Use side thrust to maintain the turn radius. Remember: a change in turn always affects climb angle, and vice versa. Take your time, no more than 100+ turns per flight. Work up to maximum power desired, and there you have it. Just don't rush things and all will be cool.

So how do you build in the wing wash? The best way is to make a wing-size (oversize actually)  $1/8$ -inch sheet balsa platform jig that sits atop your regular building board, with the root-rib end and the leading edge border pinned down, and with a wing-length wedge of the proper size glued to the bottom of the trailing edge border. Build your wing on top of this platform, and it will have the correct

**please see Circle Trim ... on page 6**

## Landings: Touch-and-Go or Bounce-and-Go?

By Glynn Mount, from the *Cam Journal*,  
Central Arizona Modelers, Inc.

“Touch-and-go” is a great way to practice landings. It’s a sure way to rapidly improve your technique. Even the best of us, however, will bring one down a little too hard once in a while, and the inevitable result will be a bounce.

The size of said bounce will be in direct proportion to how enthusiastically your airplane meets the runway. If unattended, of course, the first bounce will be followed by a second, and if the second bounce doesn’t break your propeller, you might be lucky enough to dribble to a stop before running off of the runway.

This type of landing often will bring an enthusiastic response from the critics sitting on the sidelines.

There are however, a couple of ways you could recover from a bad bounce and keep your dignity intact. One is to maintain “full back pressure” on the stick (i.e. full up elevator) in the hopes that there is enough flying speed to cushion the second bounce. If the bounce is more of a high-speed skip, this method works well.

The second method is to immediately apply power and return to level flight.

I’ve tried both methods, and a “bounce-and-go” with quick application of power will usually result in a more positive recovery from a bad bounce. If performed with finesse, you might even make it look as though you did it on purpose.

The best landing procedure is to hold the aircraft off the deck a foot high with idle power and try “not to land.” The airplane will slow and “sink in” in spite of you, giving you a smooth transition from air to ground. →

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## Circle Trim continued from page 5

angle set into it. (Shrink your covering on this jig also.)

Another way is to build flat as per usual, then when the glue is dry, wedge up the trailing edge as desired, leaving root + leading edge tightly pinned down. Saturate the structure with water spray, let dry for 24 hours, then re-glue main joints and let dry.

The least desirable method is to cover a flat wing structure, spray it, and pin it down, wedging the trailing edge. This way you depend on the tissue alone to hold the wash. Under ordinary conditions, this works okay, but let some sag get into that tissue, and you are flirting with a death spiral.

Always be cautious with Circle Trim models in humid conditions. Those with good structural integrity will be okay; others may not. Lots of dope will help avoid sag if you do fly in humid conditions frequently.

Some will tell you that those “warped” wings either look funny or downright ugly. It’s in the eye of the beholder. All I know is they sure look good in the air, up there on the “rails” they’re flying on. →

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## Shop Preparation continued from page 4

fuel last used will dissolve any residue the easiest. So, as a minimum pull the plug and flush things out with a fuel or solvent of the same base as the fuel last used. It may require soaking. A frozen engine can usually be loosened with a propeller installed and a heat gun applied. How much pressure you can put on the propeller without breaking anything is a matter of experience. (If something breaks, you used too much pressure.)

If the engine has ball bearings they need to be checked more carefully once things have been basically loosened up. With no propeller installed, rock the crank back and forth with the piston down below the exhaust opening. Carefully feel and listen for any bearing roughness. More soaking, or even disassembly may be needed. That’s because congealed oil and/or even rust may be present. Congealed oil can make bearings skid in their races on startup and scuff the races or flat spot the balls. Sort of like losing your skateboard halfway down the steel handrail. Rust can be even worse, because it’s abrasive and can grind up everything inside. Rust has to come out and new bearings may be needed. Fortunately, an old sparker that was last run on gas and oil is much less likely to have internal rust, or even bearings.

Most used engines are usually in really bad condition. Probably the most common reason an older engine won’t start right away is poor or no fuel flow. Put a foot-long piece of fuel tubing on the spray bar, blow through it and listen. You should be able to close the needle so that no hiss is present, then open it and hear the progressive hiss of flowing air. If not, use fuel to flush things out with the needle both in and all the way out. Check alignment of the spray bar. Best position for the outlet orifice is at right angles to the venturi’s air stream or slightly downstream of that position. If you look into the intake and can’t see the orifice looking back at you, you’re probably okay.

Select the propeller you’re going to use, install it, and flip the engine over to make sure the hole size is correct and the propeller nut and washer clamp down all the way.

Points on a sparker often have congealed oil, a misadjusted gap, or other problems. Check that points work by simply installing a continuity light or Ohmmeter between ground and insulated point. Slowly rotate the propeller and see that the light or meter kicks on for almost half the revolution. Check and set the timer advance at this time. Rotate the piston to top dead center by feel, or by peeping into the exhaust. Note the propeller position, and rotate it backward, and watch for the light or meter to kick on at about 20° before top dead center for easy hand starting.

Make sure you have a clean tank and filtered fuel. And if you have an external tank, or at least an external fuel line, using an inline fuel filter will eliminate a lot of potential problems. Check all screws for snugness to be sure someone didn’t leave something loose at some time.

For hand starting, a heavy leather glove is a good idea. An out-of-time, or leaking crankcase on an Ohlsson using gasoline can bang your fingers as unmercifully as anything you’ll ever encounter. Follow these steps as a minimum and you’ve just improved your odds of getting things running during the first attempt. →

## Tips & Tricks

### Don't cut that wire!

When your cell count gets too high for your speed control's BEC and you want to disable it, cut the positive (red) wire that runs from the speed control to the receiver. If you cringe at the thought of cutting the wire on your expensive speed control, here is a simple solution: buy a short servo extension and cut its positive wire. Plug the servo extension between the speed control and the receiver; now, if you want to use the BEC in another installation, just omit the extension!

### Plugged CA Applicators

The long, thin CA applicator tips work great, except when they're clogged or gummed up with dried glue. After you've finished using them, soak them in acetone; they will be clean and will last forever. This will even work for tips that have dried CA on them, and it works great on spray-can nozzles too.

### Prop Balancing

I just read in a post about how a propeller was balanced by removing some of the tip of a blade. The better way to balance a propeller is by sanding the back (flat side) of the heavy side near the tip. You can also balance by applying clear dope, colored dope, or CA to the lighter blade. The CA can be sanding for smoothness.

### Quick First Aid

If you cut yourself in the workshop with an X-Acto or a razor blade, use CA to close the cut. (You should have a first-aid kit in the shop anyway.)

**Tech Ed writes:** As an explanation, model lore has this bit about "invented for medical use;" not so. It was invented in 1942 (Eastman 910) in the Kodak labs when they were looking for a new, clear, and stable substance for gun sights (WW II ref.) Medical use came later. It is dangerous to use this for cuts, rather use it as a cover to seal tissue.

*—the above tips are from the newsletter of the Rogue Eagles R.C. Club, Medford, Oregon*

### A Repair Tip for Over-sized Control Horns

I have an interesting idea, at least to me. A few years ago I purchased a Bridi Big Bee at an auction. Set it up, flew it and had a great time with it. During the winter months I was inspecting the control horns and found excessive clearance at the clevis pin through holes. The horns (large style) were not the standard variety and needed to be replaced or repaired. I opted to repair.

This is so easy a caveman can do it. I drilled a 1/8-inch hole through the sloppy hole and inserted a piece of a plastic ink pen refill tube. CA glue and some minor trimming and the problem was solved. Works for me.

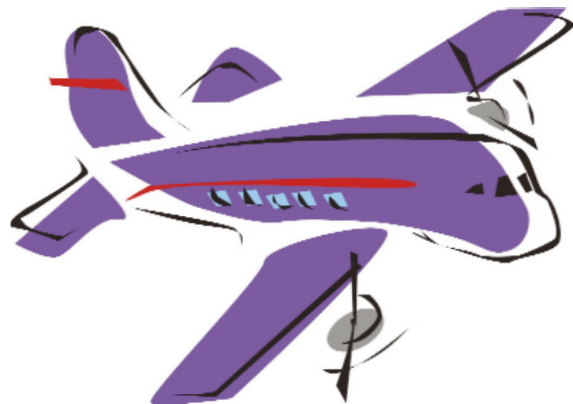
I hope this info has some value to others who may find the same issue.

*—Mike DaBiere, Front Line Flyers, York, Maine*

From the newsletter of the Silent Electric Flyers of San Diego

## Aviation Wisdom

1. Truly superior pilots are those who use their superior judgment to avoid those situations where they might have to use their superior skills.
2. Rule One: No matter what else happens, fly the airplane.
3. Forget all that stuff about thrust and drag, lift and gravity; an airplane flies because of money.
4. The propeller is just a big fan in the front of the airplane to keep the pilot cool. Want proof? Make it stop; then watch the pilot break out into a sweat.
5. If you're ever faced with a forced landing at night, turn on the landing lights to see the landing area. If you don't like what you see, turn 'em back off.
6. A check ride should be like a skirt, short enough to be interesting but still long enough to cover everything.
7. Speed is life; altitude is life insurance.
8. Never let an airplane take you somewhere your brain didn't get to five minutes earlier.
9. Don't drop the aircraft in order to fly the microphone.
10. If you push the stick forward, the houses get bigger. If you pull the stick back, they get smaller.
11. Hovering is for pilots who love to fly but have no place to go.
12. The only time you have too much fuel is when you're on fire.
13. Flying is the second greatest thrill known to man; landing is the first!
14. You know you've landed with the wheels up when it takes full power to taxi.
15. Those who hoot with the owls by night should not fly with the eagles by day.
16. Young man, was that a landing or were we shot down?
17. Learn from the mistakes of others. You won't live long enough to make all of them yourself.
18. Fighter pilots believe in clean living. They never drink whiskey from a dirty glass.
19. Things which do you no good in aviation: Altitude above you. Runway behind you. Fuel in the trunk. A navigator. Half a second ago. The airspeed you don't have.
20. If God meant man to fly, He'd have given him more money.
21. Flying is not dangerous; crashing is dangerous.
22. Flying is the perfect vocation for a man who wants to feel like a boy, but not for one who still is. →



## 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.

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