

# FlightLine

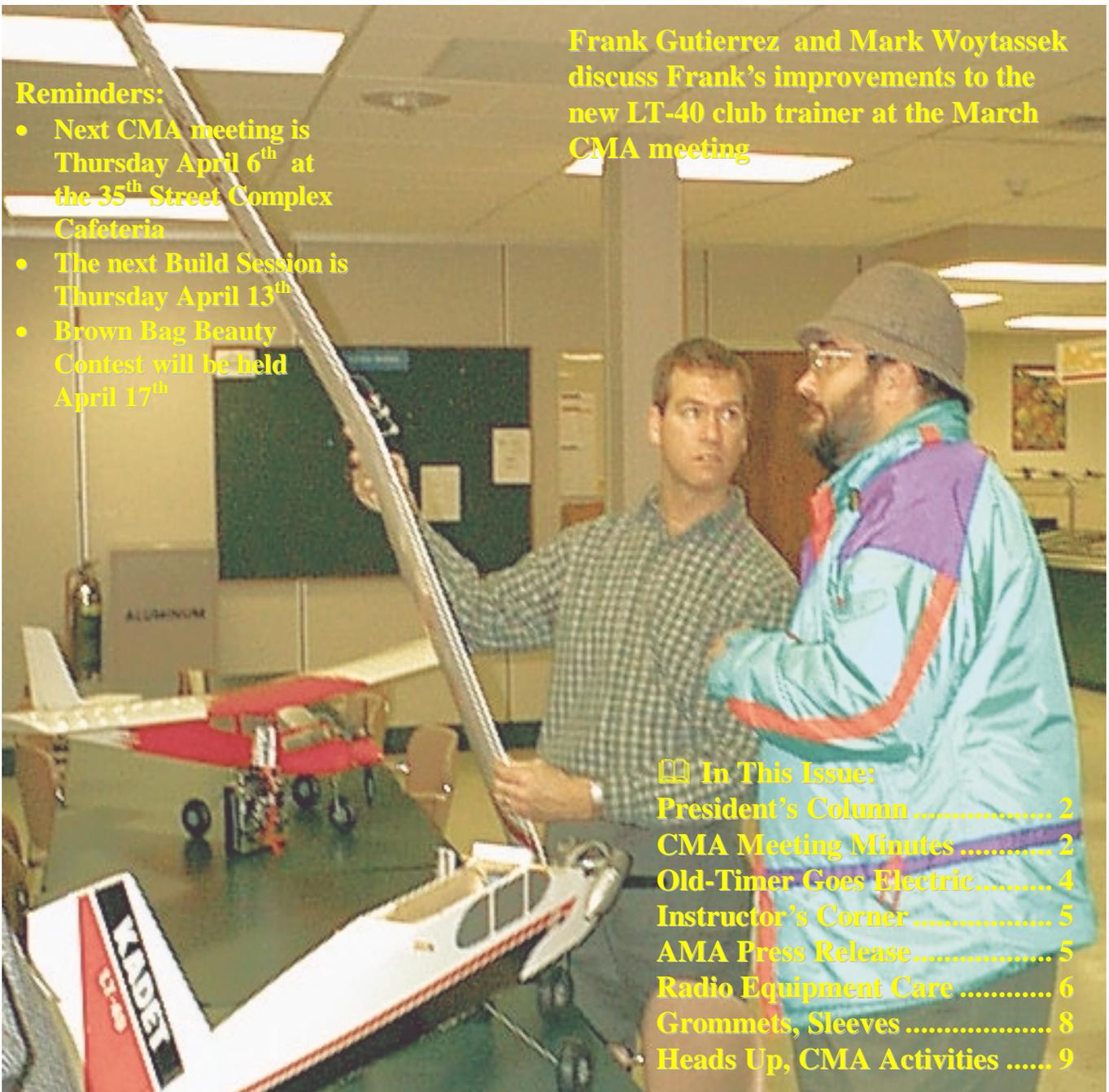
A Monthly Publication of Collins Model Aviators

April 2000

## Reminders:

- Next CMA meeting is Thursday April 6<sup>th</sup> at the 35<sup>th</sup> Street Complex Cafeteria
- The next Build Session is Thursday April 13<sup>th</sup>
- Brown Bag Beauty Contest will be held April 17<sup>th</sup>

Frank Gutierrez and Mark Woytassek discuss Frank's improvements to the new LT-40 club trainer at the March CMA meeting



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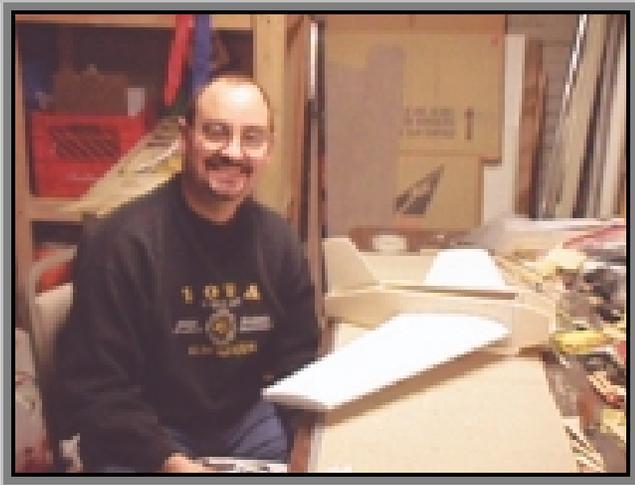
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CMA Web Page Addresses:

<http://bbs.cacd.rockwell.com/data/clubs/cma/>  
<http://members.xoom.com/cma3257/>



Collins Model Aviators  
Academy of Model Aeronautics  
Charter Club #3257



## President's Column

April 2000

By Jamie Johnson

Well, spring is finally here (I hope) and the Beauty Contest is practically upon us. If you're like me, you probably thought you would have much more done on your latest project than you actually do. It's going to be a real scramble if I hope to have an aircraft to enter in the contest. Just a reminder, the Beauty Contest will be held on April 17th in the 106 Auditorium from 10am to 2pm. Come on out see some of your fellow club member's latest creations or showoff your own.

The March Build Session was a lot of fun, it was nice of Dave to bring out his helicopter so those of us not overly familiar with them could see just what makes them tick. Crist brought in his latest addition to his helicopter fleet, it was still in the box and Crist was like a kid with a new toy (aren't we all). Many thanks to the all members that showed up!

The March Club Meeting went very well, Frank brought in the club trainers and they looked absolutely great and ready for spring. Many thanks to Frank for his hard work it's certainly appreciated. The Bylaws Change Ballots were tallied up and both of the Bylaw propositions passed, if you didn't make it to the last meeting, please review the minutes in this month's FlightLine.

Congratulations to Doug Emerson, the winner of March's \$5 gift certificate. Attend the next club meeting and it could be YOU!

FlightLine

I look forward to seeing you at the next club meeting. Remember you can keep current on club events by visiting our web site and also by visiting the discussion group on the Collins Intranet at "collins.rec".

**Jamie Johnson, CMA President** →



**Jamie Johnson conducts the meeting as Chris Heald takes notes**

## CMA Meeting Minutes

By Chris Heald

Photos by Jim Doty

**2 March, 2000**

Jamie Johnson called to meeting to order in the Main Plant Cafeteria (35th Street Facility). Twelve members were in attendance. The minutes from the previous meeting were approved as read. Chris Heald gave the treasury report.

### **OLD BUSINESS:**

The ballots were counted for the By-Laws Amendment votes. Section 6.3.1.1 passed by a 10-to-0 vote. Section 4.1 passed by a 9-to-0 vote.

Jamie thanked Frank Gutierrez for all the hard work Frank did on the LT-40 club trainer. Jamie also thanked Mark Woytassek for accepting the nomination for the Field Marshall position. Gregg mentioned the continuing need for Beauty Contest volunteers. Gregg said he would bring his Real Flight Simulator.





**Gregg Lind asked for Beauty Contest volunteers and offered to bring Real Flight Simulator**

Gregg passed out the proposed field rules to the Field Marshal, Safety Officer and Senior Flight Instructor. The three Field officers are to review the proposed rules and present their recommendations at the next meeting. The proposed rules will then be voted on by the general membership.



**Eagle 2 Club Trainer ready for training flights**

**NEW BUSINESS:**

Doug Emerson won the night's gift certificate.

Paul Carter suggested using E-Mail as a valid way to cast votes. This suggestion lead to a discussion on general voting practices. The subject was tabled for later discussion.

Mark Woytassek suggested the current Flight Training Manual needed to be reviewed and possibly rewritten.

Crist Rigotti volunteered to write a Flight Training Manual for helicopters.

Mark Woytassek made a motion that the club set up a petty cash fund from which miscellaneous bills should be paid. Frank Gutierrez seconded the motion. Chris Heald will look into the logistics of such a fund.

Jamie noted that he talked to the field owner and reported that everything is OK. Frank then updated the club on the current parking rules and runway position.

Doug motioned to adjourn the meeting. Jamie seconded. The meeting was adjourned at 5:55pm.

**Chris Heald, CMA Secretary** →



**The two club trainers were displayed at the March CMA meeting.**

Some discussion ensued concerning the difference between "Beginning Flight Instruction" and "Advanced Flight Instruction." There was some confusion as to who could help a beginner pilot. The Senior Flight Staff is to study the issue.



## Old-Timer Goes Electric

By Jim Doty

I went to the Palo Swap Meet this year, and bought another red old-timer. It is similar to the one I flew last year, covered transparent red MonoKote, but this one was set up for an electric motor. At first I wasn't sure I wanted to jump into electrics right now, but I liked the looks of the plane, and figured it was a good excuse for getting into a new aspect of the hobby.

I think the old-timer is a Carl Goldberg Clipper. It has a 67 1/2" wingspan with a 8 1/2" cord, and it is 38" long. I used two standard-sized JR 507 servos for rudder and elevator.

Being an electrical engineer, I mistakenly assumed that I wouldn't have any problem figuring out how to set up an electric plane. However, when I started trying to figure out just what to buy, I realized that I didn't know much at all about electric RC models.

I did know that I needed a motor, a speed controller, a battery, and connectors and a prop adaptor. But which to buy? Obviously, I could have asked someone who flies electrics for help, but that would be like stopping and asking for directions.

I thought a good approach would be to start with a standard electric kit like the one sold with the Great Planes ElectricCUB 59". I picked one of the motors available on the ElectricCUB, a Great Planes Goldfire 05. This motor will turn a 8x4 prop over 10,000 RPM on six-cell battery pack.



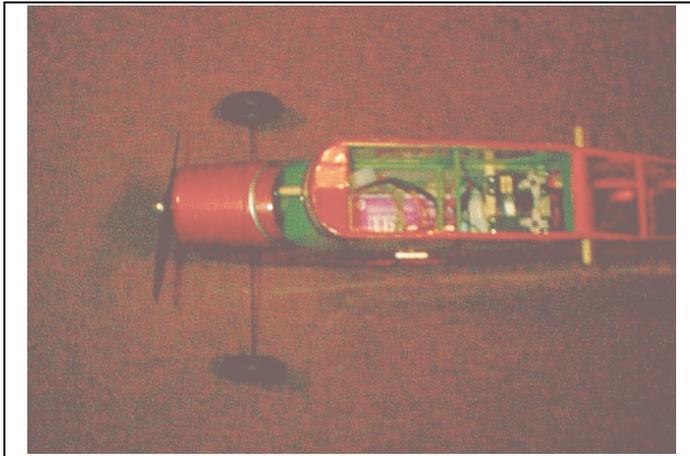
**Great Planes Goldfire 05 electric motor mounted in the nose of the old-timer**

I probably would have gotten better performance with a lighter, geared motor, but the Goldfire has good performance, for a direct drive, and is only \$17.99.

To control the motor, I bought a AstroFlight Micro Speed Control for \$37.99. This is a very nice unit that is very compact and light at only 15 gm (0.5 oz), and can handle six to sixteen cell battery packs.

I also bought a 7.2V 6-cell 1500 mAh battery pack, a low-cost 6-cell AC/DC charger and a prop adaptor. Total cost for everything, including shipping, was \$90.94, not much more than a new engine.

I mounted the battery pack on the bottom of the fuselage on top of a hatch. The hatch is attached with four small screws and can be removed to change the battery pack without removing the wing.



The battery is mounted with Velcro and a rubber band to a hatch in the bottom of the airplane

The model was very light before I started installing all the electric components, but with everything installed the weight climbed to 2 lbs 15 oz. That's a little heavy for an old-timer but, with its long wingspan, a good toss should get it into the air.



The Clipper has an elliptical wing and a lifting tail, the long wing and narrow cord gives the wing a high aspect ratio, for an oldtimer.

The model is ready to fly but, with all the wind we have been having lately, I haven't had a chance to try it out. The electric motor should make for a nice quiet flight, but the glide will be a little shorter with all the added weight.

Hope to see you out at the field.

**James H. Doty, CMA FlightLine Editor** →



## AMA Press Release

March 1, 2000

MUNCIE, INDIANA—

The Academy of Model Aeronautics, Inc. (AMA) has hired Gooden and Ellis Architects, LLP of Muncie to design and build its National Headquarters.

Construction on the 25,000 square foot facility is expected to begin this spring and will be completed in approximately one year. The facility will be a part of AMA's 1,000-acre International Aeromodeling Center, located southeast of Muncie. The building could house as many as 60 employees who serve the association's 160,000 members.

"Since moving the bulk of our operations to Muncie from Reston, Va., in 1993, our employees have been working in a building intended to house only a museum and storage," noted AMA Executive Director Joyce Hager. "With completion of the new headquarters, our staff will have a first-class facility with a more comfortable and functional work environment. Hopefully, this in turn will help us recruit and retain first class employees."

Hager also explained that completion of the facility will allow the National Model Aviation Museum and the Lee Renaud Memorial Library to expand, something that is long overdue. Hundreds of model airplanes and aviation-related books are kept in storage because of the lack of space to display them.

The new building is designed to evoke images of aviation, according to Gooden and Ellis. The low horizontal office area reminds one of an airport concourse; the two-story atrium lobby, decorated with model aircraft and memorabilia, is capped by a vertical element reminiscent of an airport control tower.

Several observation decks are located on the south side of the building to allow visitors to view the various flying activities around the International Aeromodeling Center. Stainless steel and aluminum highlight the interior and exterior finishes, which draw on AMA's colors of sky blue and gray.

The staff will work in an open-concept office area that enjoys a sweeping view of the pond immediately north of the building. A second floor, 1,500 square-foot board room can accommodate gatherings of nearly 100 persons, with a nearby warming kitchen for meal service.

The facility is landscaped with plants that are native to Indiana —Thornless Hawthorns and Serviceberry trees, as well as numerous Indiana wildflowers and grasses—that will decorate the site year-round with seasonal changes of color and texture.

The pond, almost two acres in area, receives all of the rainwater runoff from the building and parking lots and serves as a heat sink for its climate-control system. Water-source heat pumps use the energy stored in the pond for heating and air conditioning, thereby significantly reducing the building's reliance on fossil fuel-derived energy. This in turn reduces operating costs and the building's environmental impact.

Other design professionals consulting with the architects include BBA Engineering, PC of Indianapolis and Bloomington, IL; Professional Engineers Group, Inc. and Rayl Surveying and Engineering, Inc. of Anderson.

FlightLine

The AMA is the world's largest sport aviation organization, representing 160,000 members. It is a non-profit 501c(3) organization that promotes model aviation as a recognized sport and worthwhile recreational activity. Each year, thousands of members from all parts of the United States visit the AMA facility in Muncie, many to participate in organized flying activities held at the International Aeromodeling Center. Those activities include the National Aeromodeling Championships, held every summer.

For more information, contact Joyce Hager at (765) 287-1256, ext. 200.

From the AMA web page➔

## **The Following articles are from the January 2000 AMA National Newsletter:**

### **Radio Equipment Care**

#### **Vibration**

It is very important to make certain that your receiver is not subjected to excess vibration from the engine in your model. The common practice is to wrap the receiver in soft foam and stuff it into the fuselage. However, the new designs of receivers have several, up to five, components that are very easily damaged, or change values to affect a receiver's performance when subjected to vibration. The best method is to make a box or tube of soft foam plastic or rubber, and make it a size that allows a little movement for the receiver. Then, wrap the bundle with masking tape, not rubber bands, as these compress the foam, and reduce the isolation from vibration. Finally, make absolutely certain that the servo and battery wires emerge from the bundle at the opposite end from the antenna.

#### **Reversing Switches**

I have had many transmitters with channels not working or with travel jammed at one end. Many times this is due to a channel reversing switch not being set correctly. Some transmitters have very



light action reversing switches that can change position very easily. Check to make certain that all the switches are at their end positions, and toggle them several times to help keep the contacts clean. If the channel is still bad, then it is usually a problem with the respective stick assembly, usually the pot or its wires.

### **Transmitter Battery Packs**

I hate to see the familiar method of installing transmitter NiCd packs using unreliable snap fasteners rubbing on spring leaves. Too often I have seen these corroded and lacking tension, with corrosion down inside the press studs parts. It is my practice to change all of these battery connections with two heavy-duty two-wired connectors which make a safe and easy to replace pack. I also get to the isolation diode which will prevent cycling or load testing of the internal battery. Here, I install a fuse across the diode, so that it adds to the safety of the charge circuit, as the fuse will blow if a short is made across the external wiring and then the standard diode backs up the protection.

### **Servo Gears**

After a severe landing or crash the servos need to be checked for damage to their gear trains. It is not necessary to open up the case, as a real test is to rotate the servo output arm, without the servo being installed and driving the gear train back through its reduction to the motor. This very severe test will show up any weak or damaged gears by a ratcheting or even a freewheeling action. If you decide to replace the gears, make absolutely certain that you find and remove all the broken teeth, as they are sometimes the same color as the silicone grease used to quieting the gear action. Check for teeth stuck into the good gears, and look where the motor pinion is located for more hidden parts. When you install the output gear, be very careful that you orient it in the correct direction to allow full circular travel looking at the position of the end stop molding.

### **Transmitter Antennas**

The metal whip antennas take a beating, so you need to look them over regularly. Extend it fully and give it a shake, checking for slop in the sections as this

can be an intermittent connection. Clean it with tissue and alcohol and use WD40 as a lubricant. This will keep the internal connecting springs clean. If any of the sections slide back, replace the antenna, and never use metal gadgets to hold the flag in place. If you break the antenna, simply solder the pieces together with brass tubing while you wait for a replacement. Also check at the bottom as the threaded insert often breaks loose.

### **Receiver Antennas**

The standard length is one meter, while USA made receivers use three feet. However, the actual length is not that important, so don't panic if you chop off a few inches. You can safely splice back the broken end and cover the joint with heatshrink sleeving. To replace the antenna at the circuit board requires soldering skills, so it may be better to splice. Use a similar stranded wire, the gauge and insulation is not very important. Never string an antenna to the model using a metal clip at the end! Always try to route the antenna at least two inches clear of any other internal wiring.

**Editors Note:** Changing the receiver antenna length can and will adversely affect the range of the receiver.

### **Transmitter Dead?**

You can check the operation of a 72 or 75 Mhz transmitter by turning on a standard TV set to channel 3 or 4 and noting the pattern on the screen when the transmitter is close to it. You should hear a change in the buzzing sound as you move the sticks on an AM or FM, but not the PCM! A common cause for a dead transmitter is the internal fuse, which is sometimes well hidden. JR transmitters have a problem with weak spring metal in their fuse holders, which can be an annoying intermittent problem and needs retensioning when replacing the fuse.

The Futaba Attack and Conquest Transmitters often have intermittent on/off switches and the only way to replace them is complete dismantling of the stick assemblies and removing the front plate!

If you have a battery box for loose cells, this is deadly! Replace with soldered in cells, and in the Futaba 5 AU and 7 AU, these need their spring battery contacts removed and the connection replaced with suitable matched connectors.

Don't run your transmitter for longer than 15 minutes with the antenna collapsed, as this will, in time, damage the RF transistor due to excess heat build up. Use a servo driver to set up the servos, then use the transmitter to fine tune the neutrals and travels. A low meter reading is usually a sign of a bad battery pack!

from Flightline, Jean Sellers, Editor  
13136 Surcease Mine Rd  
Yankee Hill, CA 95965➔

## **Grommets, Nylon Flanged Sleeves, and Tubing**

by Keith Kern

It's the little things that make your model stand out, not only to the "seasoned builder/flyer" that may be looking over your plane with a "microscopic eye," but also to the casual observer.

Some "finishing touches" not only add to the cosmetic appearance, but also are quite functional.

Almost always, there is a need for a hole, be it round, square, oblong, etc., somewhere in or on a model airplane. Probably the most obvious, is the cowl. Whether it is ABS or fiberglass, the necessary openings are subject to cracks and breaks due to the inherent vibration of engines and the stresses of flight.

One way to combat this problem is as easy as installing a rubber grommet, nylon flanged sleeve, or piece of fuel or rubber tubing in the drilled or cut out opening.

The rubber grommet is best applied to drilled holes such as openings in the cowl for the carburetor adjustment needle or to reach the glow plug. Another place that they can be used is where the antenna exits the fuse to prevent chafing of the insulation and a most unwanted break. These grommets come in a variety of sizes, both outside

diameter and inside diameter, and can be found at almost any auto parts house or Radio Shack. The grommets from Radio Shack are bagged with about four or five sizes and several of each size. If you go to an auto parts store, you will probably be faced with looking through a maze of bins and picking out each individual size. No big deal, but it can be aggravating at times.

The nylon flanged sleeve is really a nifty little item that I just happened to find at the local builder's supply. They are located in the hardware section with the nuts, bolts, and screws. By the way, you will also find nylon machine screws and nuts from 6-32 through 1/4-28 in this section. The flanged sleeves come in a variety of sizes that go with the above-mentioned screws and some other odd sizes. These flanged sleeves simply described are a sleeve with a flange (washer) made onto one end. I use them to reinforce the screw holes drilled through cowls for mounting to the fuselage. This gives two surfaces protection, the inside diameter of the drilled hole and the outside surface where the screw head tightens down on the cowl. It also protects the threads of the nylon screw, which I find grip the tapped threads of wood much better than metal screws and are much lighter. These flanges can also be used where you have a drilled hole through wood sections that are too thick for a grommet, to accommodate a music wire switch or needle valve adjustment extension. Another good place is for the wing mounting bolts. The ideas are endless.

Rubber tubing, such as vacuum line or neoprene fuel tubing really comes in handy for those odd shaped and larger openings that you may have to cut out for cylinder heads or exhaust pipes. This application, in my opinion, is mostly for cosmetic appeal, however it can prevent any chafing of fuel lines or electrical wiring. You should try to plan ahead to avoid any areas of chafing.

I have used this method for internal areas such as where the fuel tank sits in a ply cradle. Another good place is covering around an open cockpit. Simply make a longitudinal split in the hose and apply it to the edge of the area that you want to

cover. Again, the uses are endless. Just let your creative juices flow!

All the above mentioned items can be glued in place, with the exception of the nylon flanged sleeves. These may not need to be glued.

I hope that I have passed along some information that may be helpful or useful to some of you. As I said in the beginning, not only do some of these items make you model look good, it can make them last a little longer.

Happy Flying and HAVE FUN! This is a hobby, you know!

from Tri-County Barnstormers  
<http://ourworld.compuserve.com/homepages/rpursley/tcbs.htm>➔

## Heads Up, CMA Activities

### April 2000

6-APR 5-6 PM Meeting  
13-Apr 6-9 PM Last Build Session

**17-Apr 10 AM to 2 PM Brown Bag & Beauty Contest 106  
Conference room C-Ave. Complex**

15-Apr 2:00 PM First Open Flying day  
18-Apr 5-? PM Basic airplane training  
20-Apr 5-? PM Advanced airplane training  
21-Apr 5:00 PM Flightline deadline  
25-Apr 5-? PM Basic airplane training  
27-Apr 5-? PM Advanced airplane training

### May 2000

2-May 5-? PM Basic airplane training  
4-May 5-6 PM Meeting 6-? PM Advanced airplane training  
9-May 5-? PM Basic airplane training  
11-May 5-? PM Advanced airplane training  
16-May 5-? PM Basic airplane training  
18-May 5-? PM Advanced airplane training  
19-May 5:00 PM Flightline deadline  
23-May 5-? PM Basic airplane training  
25-May 5-? PM Advanced airplane training  
30-May 5-? PM Basic airplane training

**CMA voice bulletin board 295-8888**

✉ **Send your input for FlightLine to:**

James H. Doty  
MS 108-205 x5-2931

[jhdoty@collins.rockwell.com](mailto:jhdoty@collins.rockwell.com)

## Local Events:

**5/06/00 - 5/07/00** Polk City, IA (AA) MICL=s 3rd Annual Spring Contest for 319, 320, 321, 330(JSO). Site: Big Creek State Park. M.J. Fawley CD, 237 51st St Des Moines, IA 50312 PH:515-277-3450. Other events include 75mph combat, Skyray combat, bi plane combat, 15 carrier, Fox 35 sport race. Sponsor: MID IOWA CONTROL LINERS

**5/27/00** Muscatine, IA (A) MMAA Glider Meet for 442 and 444(JSO). Site: Bayfield Aerodrome. Jim Rummery CD, 2729 Brookview Rd Muscatine IA 52761 PH:319-263-8402. Sponsor: MUSCATINE MINIATURE AIRCRAFT ASSN

## AMA events web page:

<http://www.modelaircraft.org/Comp/Contest.htm>

## For an AMA membership application:

<http://modelaircraft.org/Mem/Memapp.htm>



**Send your input for the CMA Web Page to:**

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[splante@cacd.rockwell.com](mailto:splante@cacd.rockwell.com)

## ✪ 2000 CMA Staff

President:	Jamie Johnson .....	x5-0984
Vice President:	Gregg Lind.....	x5-0008
Secretary/Treasurer:	Chris Heald.....	x5-0793
Field Marshal:	Mark Woytassek..	x5-4332
Safety Officer:	Crist Rigotti .....	x5-0612
FlightLine Editor:	Jim Doty .....	x5-2931
Web Page Editor:	Steve Plantenberg ...	x5-9625

Senior Flight Instructors and Test Pilots

First flights of new airplanes:

Frank Gutierrez

Mark Woytassek

First flights of new helicopters:

Crist Rigotti

Flight Instructors in training:

Irv Anderson

Jamie Johnson

Steve Plantenberg



**For membership information:**

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