



A Monthly Publication of Collins Model Aviators

March 2001



## Grumman F3F-2 Winter Project

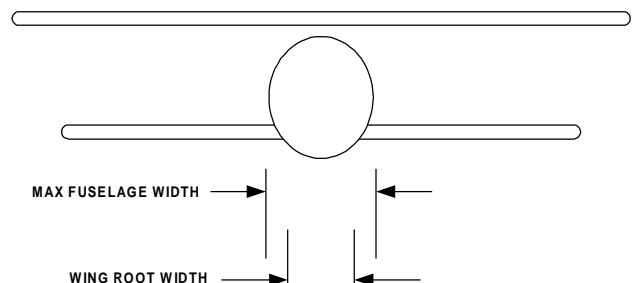
By Larry Kerns

Well, I've been working on my "winter project", a scratch-built Grumman F3F-2 Navy carrier-based biplane fighter from the mid to late 1930's. The plane was a great piece of work in its day, able to climb faster and out maneuver the P-51 mustang that came later. A nice photo of the plane can be seen above. Even though I am a beginner and probably should be attempting something easier, I chose this aircraft for the unique set of challenges that it presents. I also plan to try some new materials and techniques on this model that are not normally associated with model aircraft construction.

First, the aircraft has an unusual retractable landing gear configuration. The gear retracts vertically up into the fuselage just behind the cowling (see photo) with the wheel exposed. I was able to obtain a photocopy of the retract mechanism fully extended and partially retracted from the Naval Aircraft Historical Museum (part of the U.S. Navy). With

these photos and the help of a mechanical engineering friend of mine, I was able to determine how the original mechanism worked. My plan is to construct a scale set of landing gear from aluminum rod (if I can find some) and to operate it with a servo or pneumatic piston as a power source. It also happens that the gear is a duplicate of that used in the later F4F Hellcat. Model Airplane News had an article by a modeler that provided plans for the gear so I also sent for a copy of those.

Secondly, I would really like to assemble the two wings, struts and tensioning wires as a unit that I can attach to the fuselage as one piece with bolts when time to fly. To accomplish this I must devise a method of attaching the center struts to the fuselage with quick disconnect links and the lower wing with bolts. Its not as easy as it sounds since the "flying barrel" as the F3F-2 was known has a large and very round fuselage making the lower wing connect at a place on the fuselage that is below the widest part of the fuselage (see figure). Suggestions would be appreciated.



Third, I'm trying out a covering material suggested by Dave Shema. It's a dacron heat

CMA Web Page Addresses:

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

<http://www.cfm-resources.com/c/cma/>



Collins Model Aviators  
Academy of Model Aeronautics  
Charter Club #3257

shrink fabric used to cover full-size ultralight aircraft. The stuff is super cheap (\$3.10 per linear yard and 64" wide) and is extremely tough. I bought mine from Aircraft Spruce and Specialties on the web. Dave brought a wing he had covered several years ago with the material to the November build session and it looked great. The material gives a nice cloth appearance to the model and does not suffer from the problems of wrinkling during heat shrinking (according to Dave and the advertising literature). It weighs 1.8 ounces per square yard but, of course, must be doped which will also add weight. It will allow me to do a good job on the color scheme though without the usual problems of Monocoat. I'll give a full report of my experiences with it (bearing in mind it's a beginner's point of view).

This aircraft was equipped with a radial engine so I plan to build a dummy radial engine to go in the front of the cowling. The only one I've seen ready-made is from Top Flite but it is 1/7 scale. I'm not sure if this will fit inside the cowling or not and, if not, I plan to make my own.

I also plan to make a clear plexiglass cockpit windshield housing that slides on a track just like the real thing. This will allow me to make a detailed cockpit complete with a pilot. It should be interesting trying to make the miniature instruments! I have also been toying with the idea of making the joystick move with the control surfaces for a little more added realism, but we'll see. If the model quality isn't up to it, why bother?

Last, I'm going to try the 2-liter plastic soft drink bottle cowling trick presented in one of the model magazines (I believe it was RCModeler). You make a solid form of the outward shape of the cowling, cut the bottom out of the bottle and slip it over the form, and heat shrink it to fit. Then you cut the neck off and trim to size. It sounds easy but we'll see! If this doesn't work, I'll probably just make a fiberglass or built-up balsa one.

This model is approximately 1/7 scale (slightly smaller) with a 60" top and 54" lower wingspan. Frank and I were estimating a 60-size 2-stroke or a 90-size 4-stroke engine. I'd love to have a 4-stroke FlightLine

if I can afford it (probably a Magnum). I plan to have the model ready for first flight checkout in April. It will probably be built before then but I have to convince the wife to let me buy more radio equipment and an engine! I plan to use an Airtronics radio on channel 51 to be compatible with my trainer.

In addition to all this, I've purchased a set of the inkjet printer waterslide decals in order to print my own graphics. The brand I chose was Supercal (on the internet with a link on the CMA website). The decals come on ~5" x 8.5" sheets so in order to print the 6" round American Navy stars for the wings, I will have to print them in two pieces and put them together on the wing. I plan to coat them with clear dope for fuel-proofing.

So as you can see, there is lots to do before April. I've been working on the model since late November and currently have the upper and lower wing skeletons done (not covered), the fuselage skeleton is built and three quarters planked and have installed all control surface hinges. I've mounted the fuel tank and servo trays but have not installed the electronics (no cash to buy them!). I've also printed the decals but do not know how they will work out yet. They look great! I will provide a full report on how each of the challenges above worked out.

Larry Kerns, CMA Secretary/Treasurer➔

## **CMA Meeting Minutes**

**By Larry Kerns**

Meeting Date : 1 February, 2001

Meeting Time : 5:12 PM

Meeting Place : Main Plant Cafeteria

### **Old Business**

The meeting was called to order by CMA's President, Dave Shema. The minutes from the previous month's meeting were read and amended with the following comments:



- a. The Independence Day Combat Fly date is 14 July and NOT 7 July.
- b. The CMA Beauty Contest will be held on 16 April and NOT 17 April.
- c. Frank Gutierrez and Steve Plattenburg will be the webmasters for the club's website instead of Frank and Crist Rigotti.
- d. Three people had qualified for the "all-season flying patch instead of two. The were Frank Gutierrez, Geoff Barrance and Mark Woytassek.

The minutes were accepted as amended.

The Treasurer's Report was given by Larry Kerns.

It was discovered that Larry Martinson was never given the Christmas card or gift of appreciation that the club normally presents every year. It was decided to give him a gift certificate to a local restaurant at the time the new lease is signed during re-chartering.

### **New Business**

The club had a visitor for the evening. Mr. Les Haerther is a retired Rockwell employee. He retired in 1982 and was attending with the goal of getting back into model aviation pending an extended absence in order to get his grandson involved in the hobby. Mr Haerther said that his last experience was in the days of the "Galloping Ghost".

Discussion ensued as to when the best time was to hold the Combat Fly since Jamie Johnson announced that he would be out of town on 14 July. It was eventually decided to leave the date as is for now.

Dave Shema announced his intention to put together "Officer Transition Packets" to aid incoming new club officers in assuming their roles. Dave asked for suggestions and assistance from the "old timers" and former club officers. The idea was well received and a motion was made by Crist Rigotti to create a "Senior Advisor" officer position to assist new officers in their early days of office. Frank Gutierrez seconded the motion and it was passed unanimously.

The "Milo Drawing" for the door prize was conducted by our visitor, Les Haerther, who drew FlightLine

his own name for the door prize (a gift certificate). Frank Gutierrez had won the previous month and was presented his certificate in arrears.

Mark Woytassek asked for an update on the \$50 airplane that Steve Plattenburg had been designing. Steve announce that he had the plans well along and that the plane would be "stress-testing" the \$50 limit.

Larry Kerns had obtained patches for our three all-season fliers but they were "first-timer" all-season patches and all three candidates were previous winners of the patch. They required the add-on patches and Larry will obtain these.

Larry Kerns brought a sample of a built-up balsa wing section that he had covered with a Dacron heat shrink cloth material used in the manufacture of full-sized ultra-light aircraft. In addition, Larry pointed the membership to a website that had information on weights of materials used for covering and a table describing which dopes and paints were compatible with each other. The website was [www.modelflight.com](http://www.modelflight.com) and Frank Gutierrez announced that it was being added to the club's website links.

Mark Woytassek asked about the status of the club trainers in terms of repairs needed and also of the status of the third trainer build. Jamie Johnson and Steve Plattenburg reported that minor repairs were needed on the trainers but were in overall good shape. Jamie said the third trainer had a significant amount of build left to do so it was decided to bring the trainer in for a "build session" in order to finish it up. Jamie will provide a listing of what's left to be done.

Larry Kerns announced that he was conducting an AMA membership audit for attending CMA members following the meeting.

Frank Gutierrez motioned that the meeting adjourn and Tom Gorman seconded. The vote was unanimous and the meeting was adjourned at 5:55 pm.



Following the formal meeting, Crist Rigotti gave an excellent demonstration of using monokote to cover aircraft control surfaces. Many excellent suggestions on pitfalls to avoid were provided by Crist and other members.

Respectfully submitted,

Larry Kerns, CMA Secretary/Treasurer→

## DES MOINES MODELAIRES SWAP MEET

Des Moines Modelaires radio control flying club is having a swap meet at the Ankeny Lakeside Center March 11 from 10am until 2pm. \$2.50 admission for 14 years old and over, \$5 for family, everyone is welcome. Tables to sell models and equipment rent for \$10 in advance and \$12 at the door, ½ tables \$5 adv. \$6 at door, bring own card table for \$5 More info: Chuck Blake 515-967-5079 or

email at [CRSKBLAKE@WORLDNET.ATT.NET](mailto:CRSKBLAKE@WORLDNET.ATT.NET)

Send advance payments to

Chuck Blake, 707 15th Ave.S.W., Altoona, IA.  
50009

## National Newsletter

### Hints & Tips

#### Try This Out

by Joe Podraza

If you're a scratch-builder and have never tried to iron on balsa, you should.

I don't remember the article, or in what magazine it was in, but I did try it out on a small model with tight curves in the fuselage and it worked well. No clamps or pins or holding the balsa down while the glue dries.

I now use it to plank the leading and trailing edges of my foam wings as well as the cap strips. So far, I haven't had any of the planking let go.

Using contact cement is okay, but once the planking is set in place, there is no moving it. With this

FlightLine

method, you can take your time to line it up and hold it down while you iron it on.

I remember the article said it was an old-time cabinetmaker's way of laminating the top ply on. All that's needed is Elmer's glue or any glue that says it's aliphatic resin, a way to squeegee it on really thin on both sides that are to be joined, and an old iron that you can pick up at any thrift store.

Allow time for the glue to dry, then line up the planking and iron away. On the really sharp bends, I wet the outside of the balsa and the steam lets it bend without cracking.

If you don't believe the holding bond, just iron on a sheet of 1/16-inch balsa onto a piece of foam and try to rip it off. When it comes off, the foam will come with it. Once it's on, more heat will not loosen it. Just remember to put the glue on really thin. I use a rubber squeegee, and be sure to let it dry before you iron it on.

from *Flypaper*

Lake County Illinois Radio  
Control Club

Joe Podraza, Editor

## Handling Glass Cloth

This one that originated with the Florida F1B flier Rex Hinson, and it is a jewel.

Following this fast, inexpensive procedure will make glass cloth a lot less troublesome to handle and cut accurately. It works with any weight cloth, and once you try it you'll probably want to do your entire glass cloth supply in one session.

1. Lay out your piece of cloth on the garage floor, etc., on top of layers of newspaper. Hold the cloth flat and in position, but with the weave undistorted. Weight it with something like full soft drink cans around the edges, covering no more cloth than you have to.

2. Using a cheap spray can of clear lacquer (mine, \$3.29 from Ace Hardware), fog the entire surface



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of the cloth. Allow to dry a few minutes and check to see that the weave is 'locked in.' You don't want to fill the pores of the weave; just give it some integrity to prevent distortion when handling. If the cloth feels a tad stiff, you've likely done your job. If not, fog on another coat.

This quick trick enables you to roll the cloth (newspaper is fine) for storage. You'll no longer cuss when trying to cut a straight line with scissors and application with thinner onto a pre-doped surface becomes a joy.

from *Brainbuster*, September 2000  
via *The Bat Sheet*  
Ted Ballin, editor  
8027-20th Avenue N.E.  
Seattle WA 98115-4405

## Building/Flying Tip

If you have two or more aileron servos, do you spend a lot of time trying to figure out which lead goes to which servo when you put on the wing, or put on the wing and find that it's hooked up wrong and has to be re-done? Or even worse, find out the connections are wrong after you are in the air?

If you color code your servo connections, all the above problems should go away. After all the connections are made and checked out, leave the first servo unmarked, but on the second servo lead (and extension), put a white dot on the front and back of the male and female connectors. A toothpick and Testors enamel works great.

If you have a third or fourth aileron or wing servo, do the same thing but use a different color like yellow, orange, red, or light blue. Fast, accurate hookups are now a snap!

from *The Windsock*  
Don Johnson, editor  
49 Nottingham Road  
Kimberling City MO 65686

## This is a Ripoff!

Did you ever try to tear a piece of sandpaper to the size you need for your sanding block and it just happens to rip in the wrong place? So you get your wife's scissors and you cut the pieces and everything is great until she starts looking for them and you are caught.

Try an idea that I use when I have to make a specific size cut in sandpaper. I use the same idea as on a box of wax paper. Take a hacksaw blade and mount it on the edge of a piece of wood or on your bench. Mark the desired size of the sandpaper, hold the paper down on the flat surface, and pull down against the blade the piece you are cutting off. It works well almost every time. Be sure to hold the sandpaper firmly against the board or bench.

I have a piece of light ply I sacrificed for this purpose. I recessed the edge of the board and used CyA to glue the blade into place. I also put marks on the board for the different sizes I need for my sanding devices.

by David Hostert  
from *The SAC Dope Can*  
John S. Kallend, editor  
1935 Hickory Road  
Homewood IL 60430

## Heads Up, CMA Activities

### March 2001

1-Mar 5-6 PM Meeting  
8-Mar 6-9 PM Build session  
16-Mar 5:00 PM Flightline deadline

### April 2001

5-APR 5-6 PM Meeting  
12-Apr 6-9 PM Last Build Session  
16-Apr 10 AM to 2 PM Brown Bag & Beauty Contest 106  
Conference room C-Ave. Complex  
20-Apr 5:00 PM Flightline deadline  
21-Apr 2:00 PM First Open Flying day  
24-Apr 5-? PM Basic airplane training  
26-Apr 5-? PM Advanced airplane training

### May 2001

1-May 5-? PM Basic airplane training  
3-May 5-6 PM Meeting  
8-May 5-? PM Basic airplane training  
10-May 5-? PM Advanced airplane training  
15-May 5-? PM Basic airplane training  
17-May 5-? PM Advanced airplane training  
18-May 5:00 PM Flightline deadline  
22-May 5-? PM Basic airplane training  
24-May 5-? PM Advanced airplane training  
28-May 5-? PM Basic airplane training  
31-Apr 5-? PM Advanced 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)

Or at my home EMAIL

[jhdoty@home.com](mailto:jhdoty@home.com)

### **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:**

Steve Plantenberg 295-9625  
[scplante@cacd.rockwell.com](mailto:scplante@cacd.rockwell.com)

or

Frank Gutierrez 295-0969  
[fsgutier@collins.rockwell.com](mailto:fsgutier@collins.rockwell.com)

## 2001 CMA Officers

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Safety Officer: Crist Rigotti .....295-0612  
FlightLine Editor: Jim Doty .....295-2931  
Web Page Editors: Steve Plantenberg ...295-9625  
Frank Gutierrez .....295-0969

### Senior Flight Instructors and Test Pilots

#### First flights of new airplanes:

Frank Gutierrez  
Mark Woytassek

#### First flights of new helicopters:

Crist Rigotti

#### Flight Instructor:

Steve Plantenberg

#### Flight Instructors in training:

Irv Anderson  
Jamie Johnson

## **For membership information:**

Contact: CMA Secretary Larry W Kerns