FlightLine

A Monthly Publication of Collins Model Aviators **June 1998**

Reminders:

- Next CMA meeting is Thursday June 4th
- Flight training sessions are held every Tuesday and Thursday weather permitting

June's Featured Photo:
This month's featured plane is Crist Rigotti's Zenith 60. I saw it fly at the field on Tuesday May 26th. It flies as good as it looks. It has plenty of power for a vertical climb, and can knife edge all day long.

For more photos see Crist's article on page 2 and Zenith 60 on page 4.

James H. Doty, FlightLine Editor ✈

🕮 In This Issue:

President's Column

by Crist Rigotti

Hello aviators! May was certainly an interesting month. We learned that this will be the last year we will be flying out of Doc Sherman's airfield. He has sold some property and some buildings will be going up. Please remember to park on the North side of the street by his office. We all need to be actively looking for another flying site. Ask around, neighbors, church, etc. We have our work cut out for us, but nothing that as a club we can't handle.

The Zenith 60 is finished. The numbers are: 7 lbs even, 810 sq in, ST G90, 5 servos, 1000ma battery pack. It did come out nose heavy. I already added 3 oz to the tail, still needs some more. It flies great! Rolls very axial, plenty of power, no roll coupling when yaw is applied. A very true and honest flier. Slows up real nice on landings due to the 18% airfoil. Still trimming it out, but enjoying the ½ throttle aerobatics and full throttle verticals! Finished weight with tail weight added will be under 7 ½ lbs. It pays to hand pick light wood and follow careful building practices.

As I write this, the first Heli Demo was cancelled due to weather. Will try again this Thursday (May 21) and continue on Tuesday and Thursday of next week (May 26 & 28). Let me invite ALL our club members and those interested to come out to the flying field for the Demos. They should take place between 6:30 PM and 8:00 PM. Please ask any questions that you might have. As a side note, the Cedar Rapids Skyhawks have Helicopter Night every Monday from May through September at the Marion Airport flying site. I'm looking forward to discussing the change to the By-laws concerning helicopters. Some may think that it's a moot point due to a new flying site next year. Remember that the By-laws won't change when we change our flying site. Hopefully, we can put this behind us after the next two meetings.

Working with the Zenith and the G90, I realized that safety would be an issue. We all read about the airplane that cut somebody up while starting or while it is in the pits. Sometimes, when at the flying field, I'm the only one there. When starting the engine there is a good chance that nobody will be around to hold it for me. Concerned about a mishap, I came up with the following solution. I bought some 1/8" braided nylon rope and some clip fasteners- the kind that are on transmitter neck straps- and made a "Safety Lanyard". It is about 3' long with a fastener on each end. I also bought a dog leash "thingy" which screws into the ground for $2 at Menards. Now when alone, I screw the "thingy" into the ground and run the "Lanyard" through the eye and attach it to the tail wheel music wire. Then, I pull the plane toward me to take out any slack-very important-before I begin to start it. After starting, and still at idle, I walk BEHIND the plane and disconnect the glow plug clip. Then I disconnect the Lanyard and-by hand- move the plane to the run-up area. Only then will I run up the engine beyond idle. I NEVER disconnect the glow plug clip while in front of the plane. NEVER kneel or sit in front of the plane, and run it up, while YOUR holding on to it! Always ask for help, or make yourself a "Safety Lanyard". I'll bring it to the next meeting. It one of those things that is harder to explain than to make it.

Rich Dean informed me that over the past few weeks he has handed out about a half dozen Student Pilot Manuals to new and beginning pilots. Looks like there will be a good group on Tuesday nights. By the way if you can help out on Tuesday's it would be appreciated. Please remember that on Tuesday's beginners get

preference at the field. This includes frequency use, runways, and flight paths.

One last comment, set yourself some goals each flying session. Even if it's sharpening up your "straight and level" flight. We improve our skills this way. Do this on the 2nd or 3rd flight. But most of all enjoy the challenge.

Let's go flying…..CONTACT!

Crist Rigotti, CMA President✈

May 5, 1998 Minutes

by Doug Emerson

Crist Rigotti called the meeting to order. There were 14 people in attendance.

Treasurer's report indicated there is $488.59 in the Rockwell account.

Old Business:
The previous month's minutes were approved as read.

The mowing schedule was passed out. Crist will send out reminders.

The bulleting board display put together by Frank Gutierrez looks very nice. It was suggested that we see if it can be moved to other locations in the plant. It is currently in building 106.

There was no progress on an external web page.

Crist indicated he is planning on doing the helicopter demo in May and will get some information on it out to the members.

New Business:
Crist reported that the owner of our flying field has sold the property and that it will not be available to us next year. We can use it the remainder of this year, but we must change our parking location to the north side of the street by Doc's office. We need to start the search for a new field.

It was noted that a new R/C club has started up in the area. It is called the Macbride Flyers and is flying at Macbride Airport.

Doug Emerson, CMA Secretary✈

HAWKER HURRICANE MKIIA

From the US Air Force Museum web page:

The Hawker Hurricane was one of the famous British fighters of WW II. The prototype was first flown in November 1935 and the first production aircraft made its initial flight in October 1937. Within a matter of weeks, Hurricanes were being delivered to their operational squadrons. By the time the war broke out in September 1939, the Royal Air Force (RAF) had taken delivery of about 500 Hurricanes as production continued.

The hurricane is probably best known for its performance during the Battle of Britain. When the battle commenced in July 1940, the RAF Fighter Command had but 527 Hurricanes and 321 Spitfires to counter the enemy's 2,700 aircraft. Yet, the RAF was able to maintain air superiority in the skies of Great Britain.

Hurricanes were built not only in Great Britain but also in Yugoslavia, before the German invasion, and in Canada during the 1940-1942 period. they were flown by pilots of many nations during the war.

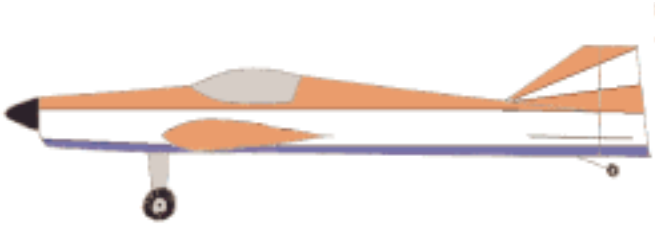
SPECIFICATIONS	PERFORMANCE
Span: 40 ft. **Length:** 31 ft. 4 in. **Height:** 13 ft. **Weight:** 7,200 lbs. loaded **Armament:** Eight .303-cal. Browning machine guns **Engine:** Rolls-Royce Merlin XX of 1,260 hp. Crew: One	**Maximum speed:** 340 mph. **Cruising speed:** 238 mph. **Range:** 468 miles with internal fuel only; 1,090 miles with two 90 gal. ferry tanks **Service Ceiling:** 35,000 ft.

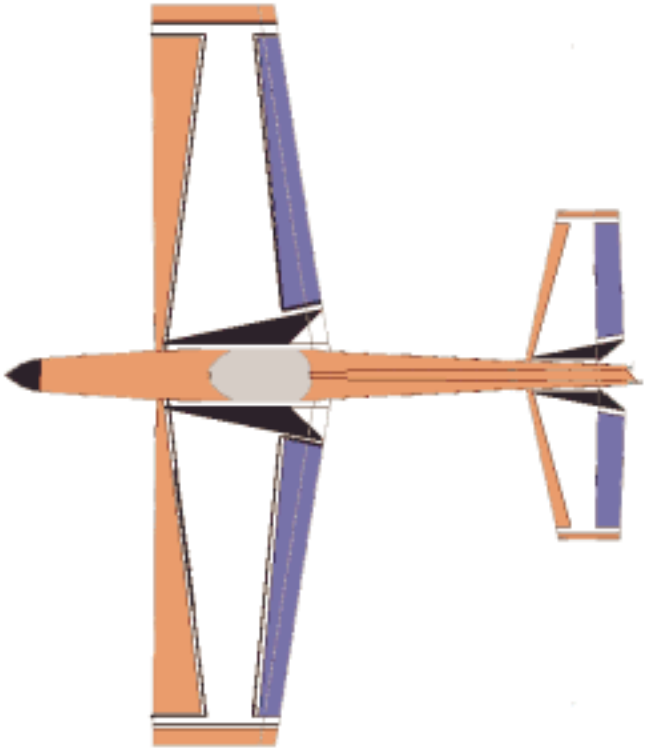
http://www.wpafb.af.mil/museum/early_years/ey15a.htm✈

Zenith 60

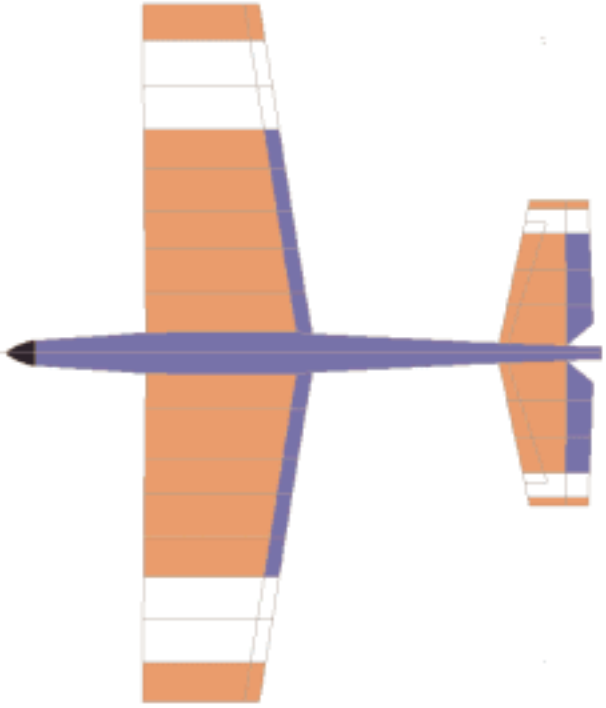
Photos and figures by Crist Rigotti

Crist Rigotti sent me the drawings he used to design his Zenith 60 color scheme. He wrote an article last month describing how he selected the colors. The photos below show how well his original concept was realized in the model.





Top View



Bottom View

James H. Doty, FlightLine Editor ✈

Field Action

by Rich Dean

Wow, what a busy Spring! If you haven't been making it out to the flying field you have been missing a lot of action.

First off, congratulations to Frank Gutierrez for becoming our newest solo pilot. Frank is getting back into R/C after many years of flying full size aircraft in the Air Force. He soloed on a plane borrowed from Geoff Barrance and has a PT-60 almost finished to fly this summer.

Our first place beauty contest winner in the trainer category, Van Snyder has had his new LT-40 in the air quite a bit lately and is making good progress figuring out what this flying stuff is all about. Ehren VanAuken had his new MidStar 40 out for it's initial flights also. After an interesting first flight, it settled into a flawless second flight. It has trike gear making takeoffs easy. The MidStar is a mid-wing design and axial rolls are very easy. With a Super Tiger .45 it has plenty of power, outside loops were done at half throttle. Where it really shines is low speed flight. You can really slow this plane down on approach and take your time setting up for a landing. A very desirable characteristic for a second plane. This is the second MidStar I have flown and they both have proven that the MidStar is a very good choice for a second airplane.

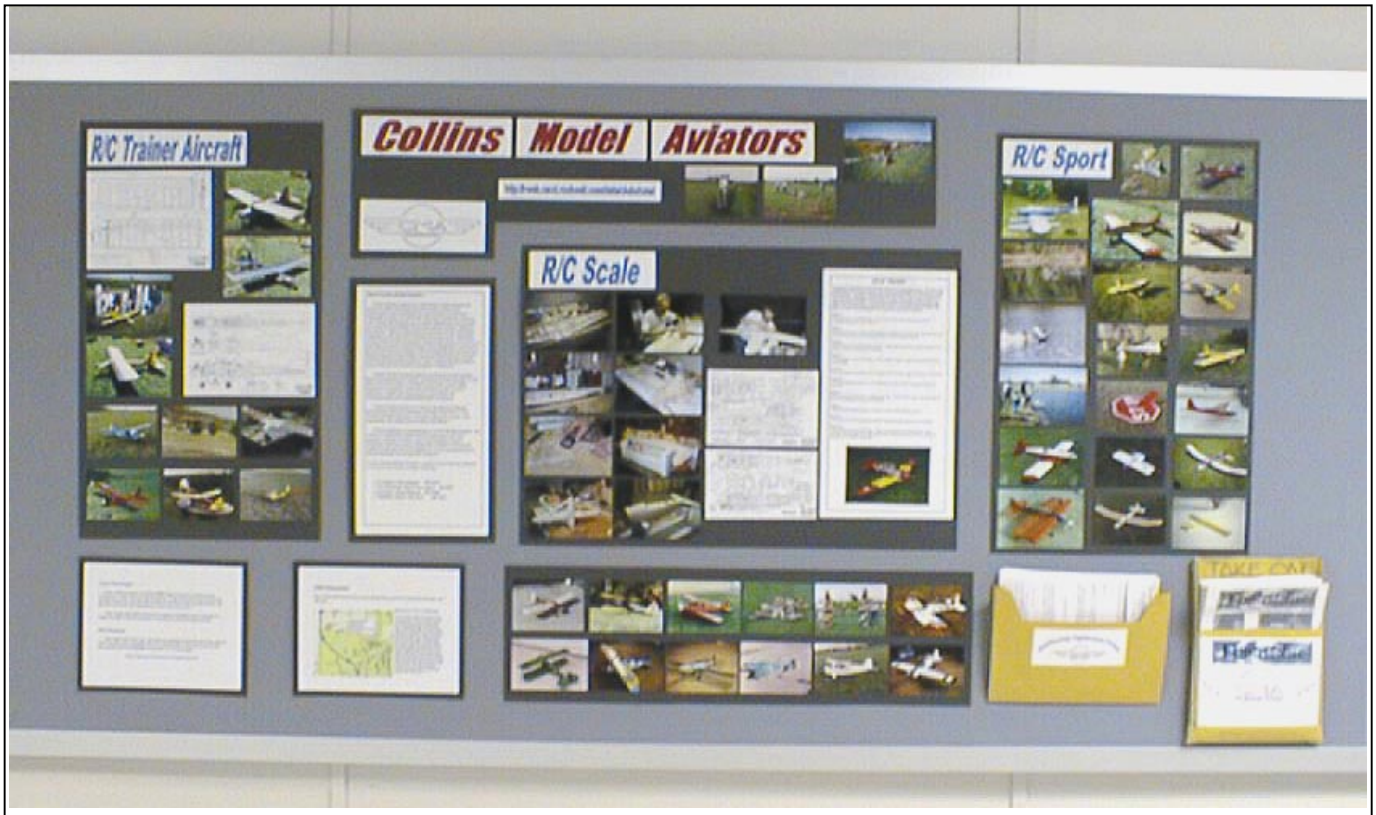
The PT-40 club trainer has been getting a workout after a couple of years off. With as many as four new pilots flying the PT-40 in one evening our new pilot business is booming. I haven't had a chance to get to know all the new guys showing up at the meetings and at the field. Old guys—help the new guys. Find out where they are on their projects, answer questions, let them look over your planes, have them bring their planes out to the field for equipment check out and engine break-in.

Remember what it was like when you were just getting into the hobby? So many questions! When I was getting started I had an engine that I couldn't get started for a year. I found out from a hobby shop owner that the prop I had selected for the engine was too small. It wasn't enough of a flywheel to carry the piston through compression. With a larger prop I got the engine running right away. A little help can go a long way. This stuff isn't hard, it is just different. New guys—show up at the field, get your questions answered. Find out what works and what doesn't work (WHAT? EVERYTHING IN THE MAGAZINES DOESN'T WORK?!). Keep an eye out for a future project or a project to stay away from.

On bad news, we have already had a mid-air this year. Accidents happen but let's all try to fly the same direction in an oval pattern to lessen the chances of this happening.

New/old guy Ed Deruiter showed up at the field with his "taildragger" PT-40 after several years off . It doesn't look like a PT-40 and without the extra drag of a nosewheel it flies better. He got three flights on it after getting the carb freed up from not being used. The oil in our fuel will gum things up in an engine if the engine hasn't been used for a while. Fortunately, a couple of shots of fuel will usually dissolve the gummed up oil and we can be back in business again.

Dan Cooley is shooting landings and is getting close to solo. This winter he added an aileron servo to have dual aileron servos on his LT-40. His goal is to try flaperons which adds the flap function to the ailerons. He doesn't have much flap dialed in yet, we will stay tuned. Although with all the wind we have had lately, one doesn't need flaps to slow down to land!



The CMA Bulletin Board was set up by Frank Gutierrez and the rest of the committee. The display looked great , and it was even kept up for an additional week during the Rockwell Board of Directors visit. Thanks to Frank and the others for all their hard work.

The Islander/LT-40 twin has four flights on it. Duane and I got to the field early one day and being out of excuses had to fly it. The first flight was made short due to the elevator being out of trim. The second was interesting when an engine died. The plane was plenty high and I cut the remaining engine to idle. Being adventurous, I added throttle and the plane yawed right indicating the left engine was OK and the right had died. I then just cut the throttle and landed. Single engine experiments will come later. The next two flights were flawless, with Duane and Dan Cooley getting some twin engine stick time. It flies like an LT-40 but with a little more drag that is only noticeable on final. So if anyone wants to add twin experience to their flying, just ask when the Islander shows up at the field.

We are looking forward to some of the other new planes showing up at the field. Let's hope the weather and personal schedules cooperate. It has already been a fun start to the year.

Rich Dean, CMA Flight Instructor✈

National Newsletter

The following articles are reprinted from the AMA's National Newsletter

http://www.modelaircraft.org/news/letters/aprnews98.htm

Bending Balsa

by Clarence Lee

from the Net, by Joe Wagner

From what I've seen on this net lately, I'm unsure whether anybody here still builds model airplanes out of balsa wood, except for me and Randy Randolph. But if there are such artisans existent on the net, here's some information that may help.

Contrary to common belief, ammonia doesn't really make balsa easier to bend. True, ammonia has long been used by industrial "wood formers" to soften hardwood for forming tennis racket frames, chair seats, and that sort of thing. However, (1) the ammonia is in concentrated gaseous form, so strong that one breath of it would sear your lungs; and (2) it works by temporarily plasticizing the lignin "binder" in the wood.

Household ammonia doesn't really help in forming balsa because (1) it's merely a weak solution of ammonia gas and (2) balsa contains practically no lignin anyway. (That's one reason it's so light.)

Household ammonia appears to soften balsa. That's because its detergent action makes its water content soak into the wood fast. Few modelers realize how slowly plain water penetrates balsa. It wets the outer surfaces fast, all right—but in doing so, the wood cells swell up and produce a barrier against further moisture penetration.

At Veco in the 1950s, we used a wet process for die-cutting that eliminated nearly all "die-crunching" problems. But to make it work we found that the wood had to be soaked all the way through. For 1/8" x 3" x 36" medium-hard balsa sheets, that took at least 24 hours.

We tried an ammonia/water solution to expedite the soak-through. That worked! However, we also found that ammonia makes an excellent fertilizer for various molds, mildews, and fungi. They thrived gloriously between many of the wet sheets of balsa—which, as you might suspect, took about as long to dry out as they had to become saturated in the first place.

One further detriment to the use of household ammonia for model-building purposes is that some if not all brands you can buy at your supermarket contain other "ingredients" besides NH3 and H2O. Bobrick's Cloudy Ammonia (for example) has detergents and stabilizers added, which cause polyvinyl type cements (e.g., white glue and "aliphatic resin" glue) to curdle rather than cure.

Plain water seems the only sage "bending enhancing" fluid for balsa. True, it takes a long time to thoroughly penetrate the wood. Hot water works faster, but even that requires about four hours to truly saturate 1/16" sheet balsa. But when balsa is really soaked, you can just about tie knots in it without its breaking or splitting. I've formed severe compound curves with it—such as a one-piece fuselage top for a 3/4" = 1 ft. scale Lockheed 10A "Electra"—that would have required strip-by-strip planking by conventional construction methods.

True, there's a drawback to working with soaking wet balsa. It expands when wet and shrinks back again as it dries. For medium-weight wood, the lengthwise expansion of saturated balsa is about 3/4 of one percent. That's not enough to make trouble, at least in the size models I build. But across the grain can be a different story! There the expansion can be as much as ten percent.

That's more than enough to cause problems. I once made the mistake of sheeting the leading edge of a big control line stunter with sopping wet 1/16" x 3" balsa sheet. When it dried out, the shrinkage produced "scallops" between the ribs, almost as bad as if I'd covered the wing with wet Silkspan.

All this goes to show that model building is an art form, requiring knowledge, patience, finesse, and even a modicum of good luck. But to me that's the fascinating part of the activity. (I'd rather spend time constructing my own models than cash buying craft built by others. As far as I can see, there's nothing educational in spending money . . .)

from SAM 8 Speaks
Ted Katsanis, Editor
16760 NE 33rd Place
Bellevue, WA 98008

An Introduction to "Black Magic" Better Known as Carbon Fiber

As most of you know, carbon fiber reinforcements have become standard in the FAI events. The techniques used by the FAI fliers can be used to great advantage in most other classes of models.

Let's look at how CF is used to best advantage. Carbon Fiber has great strength-to-weight ratio. It is especially strong in tension. CF comes in many forms; some include unidirectional fabric of various thicknesses, fiberglass-like cloth, tow (loose carbon fibers), unidirectional sheet using epoxy and CF to form sheets of various thicknesses and widths, and rod of a variety of diameters.

Some typical applications include; wing and stab trailing edges, rudder spars, "taco shells" for D-box constriction, tail boom stiffening, propeller blades and field repairs, to name a few.

A single piece of CF bending in the flat direction adds no strength, but . . .a single piece on edge has possibilities. If you glue a single strip on the front edge of a trailing edge, then sandwich it in place with a thin strip of balsa, the trailing edge will remain straight forever. I see hand launch gliders with a strip of CF across the middle of the wing, assuming it will make the wing much stronger. Wrong! It only holds the pieces together when it crashes. If a second piece was placed on the bottom of the wing, opposite from the top piece, the wing would become exceedingly strong. The basic strength of CF is in tension.

A very good glue joint between CF and balsa is important if the advantages are to be realized. CF strips of any width may have residue of release agent, or wax, left over from manufacture. This needs to be cleaned off before any glue is used. I generally pull the CF strip between a folded piece of 320-400 grit sandpaper until any gloss is removed, then wipe the strip down with rubbing alcohol before gluing. A slow curing epoxy is best for gluing strips to the top and bottom of spars, and should be done before the wing is built. Remember, if it ain't straight when the glue dries, it won't ever be straight.

I make up spars using an aluminum angle longer than the spar will be. A piece of Saran Wrap is folded 90 degrees and put between the spar and the aluminum. A very thin film of epoxy is applied to the two spar caps. these are then placed on the top and bottom of the balsa spar. This assembly is then placed in the aluminum angle. Clothespins are then used to grip the aluminum, and slide up against the spar from both the top and side to hold everything straight while the glue cures. A scrap of overhead lighting track aluminum has a very sharp angle and so is ideal for making spars. The thickness of the CF used for making spars varies with the size of the model and the loads involved. For a Wakefield wing, I use .014 for the top cap and .007 for the bottom. This would probably be okay for an A-Gas model. Much thicker is used on A/2 Nordic models due to the large tow and launch loads.

Increased bending loads can cause the balsa to CF glue joint to fail, therefore, most modelers wrap the finished spar with a spiral wrap of Kevlar thread with 1/4" to 3/8" spacing. Alternate the direction of the wrap about every eight inches. This keeps the wrap from twisting the spar. If the spar is being used inside the rear of a D-box structure, no gluing of the thread is needed, except for gluing the ends of the thread. However, for an open spar, a thin film of epoxy should be applied to the top and bottom to keep the thread in place.

Scraps of CF sheet are great for field repairs. For example, a broken balsa propeller can be quickly repaired by using a couple of 1/8" wide scraps of .007 CF stock about 1" long. Hold the prop pieces together and tack with CA. Use a knife or razor blade to make a couple of slits across the break. Insert the CF scraps and glue with CA. The number of uses is limited only by your imagination.

from the Florida Modelers Association Newsletter
Rex Hinson, Editor
via The Bat Sheet
Washington State

AMA's National Newsletter ✈

Glues

by Charlie Meyer

The use of adhesives to fasten two or more substances together dates back as far as man.

Early glues were made by boiling bones, skin and cartilage in water, decanting the subsequent "Mother's Liquor," separating it from the undissolved material. This was then evaporated into sheets, broken up into pieces and stored. When required for use, chips were redissolved in water by heating and the glue applied as needed. These glues were strong. Recurved, reflexed Turkish and Oriental bows in the Middle Ages were among the most powerful ever made and the horn and wood used to make these bows were glued together with these adhesives.

The development of chemistry turned the corner in the 1800s with the advent of nitrocellulose (guncotton). It was found that this product, dissolved in high potency solvents, made an excellent, fast drying, cheap adhesive. (Ed note: and I consider this still the best glue available and still use it.) Other glues were developed in the form of wood glues under the name of Elmers and Bordens which did not require the use of petroleum solvents but which used water as a solvent. These were also cheap, strong and safe.

In the mid-1930s, a new group of adhesives was developed by Devoe, Reynolds Company and Shell Oil Company. They were unique in that they were catalyzed products that required no outside stimulus to cure. A broad range of applications was developed so that they could do jobs that heretofore were not possible such as underwater curing, fusing new concrete to old, the fusion of fiberglass into sheets that could be circuit printed without the deterioration of the boards during acid submersion. Another new adhesive was the CA (Cyanoacrylate) glue. Here the taking on of moisture effected the cure and gave the user instant gluing.

There are many advantages and disadvantages to all these heretofore mentioned. We will talk about these as we discuss each. One thing overlooked by model makers is that all commercial glues on the market are stronger than the materials used in our building. For one to say "I used Epoxy (for example) because I want my airplane to be stronger" is a bunch of garbage (and expensive garbage at that). If the adhesive you use is just a little stronger than the wood, then glue, say three times stronger than the wood is an "overkill" and does not, in fact, do a better job for you. I don't think I've ever seen a broken glue joint, but I've seen a lot of lousy glue joints that separated. Why? Poor preparation and using an adhesive not designed to do the job. Poorly matched joints, oily joints and dusty joints generally are the problem regardless of which adhesive you use. Short cut the preparation process and you court disaster.

Which Glue to Use and Why

Nitrocellulose—These glues are easy to use but have several faults. They are extremely brittle and give off toxic fumes that, over prolonged periods, can cause serious brain damage. While most of these glues have a plasticiser added, it will migrate out over a period of time and leave the pure nitrocellulose as hard as a rock. Also, with any adhesive that is in solution and where there is evaporation, there is also shrinkage so it is necessary to use great care to ensure that ample cement is on the joint to get a good bond. These nitrocellulose glues also have poor sanding qualities.

Wood Glue (White and Yellow)—These are strong, cheap and easy to use. While they dry from evaporation (the solvent being the water) the mechanism is different from the nitrocellulose glues. Shrinkage is less where the joints are coated first, allowed to dry slightly and reglued a second time. Another advantage is that excess glue can be cleaned off with a paper towel. They usually take overnight to dry. One argument that I hear is that since the glues are water solutions, water will weaken the joint or even dissolve the glue. Nothing could be further from the truth. Once the glue is dried, joints will not come apart. The disadvantage is, of course, that they are slower to

dry. While the white glue is poor for sanding, the yellow glue is very sandable.

Epoxies—This was and is a new ball game. The range of adhesive abilities of these products is nothing short of phenomenal. When catalyzed, they can be brittle or fragile and have drying times ranging from a few minutes to overnight. While a lot of builders use the five minute version, it should be remembered that it is still a good idea to allow overnight for the best cure. Unlike most glues, the heavier the glue joint, the faster the glue cures. This is because when epoxies are curing they give off heat. This heat in turn causes the glue to cure faster. This is one of the best glues to lay down fiberglass (e.g. wing joint covering). The method is to apply the glue directly to the wing, lay the fiberglass over the glue and use a wood spatula to squeegee the epoxy up through the glass. Try to squeegee as much of the epoxy out as possible. The simple saturation of the glass is adequate. Epoxy is expensive, no need to waste it. Since we said that most glues will do an adequate job, there is one area where epoxy outclasses all the rest. This is "bad damage" repair. Since epoxies do not shrink, they are great as a putty where pieces of wood are messy. Talcum powder or sawdust mixed with epoxy will fill all those unwanted gaps on a crashed airplane. Remember, get the final glue surface as smooth as possible since epoxies do not sand well.

CA—For the fast paced modeler who is impatient, CA is a gold mine. It is also a gold mine for the suppliers! It will do a strong job fast, but beware. Since the glue is generally thin, the joints being glued should be carefully matched to give a good bond. Things like talcum powder can be put in a bad joint and the CA applied, but it is far better to make a good joint first.

So you have your choices. Personally I prefer yellow wood glue for my building. I will use epoxy as a damage filler and CA for emergency repairs at the field, but for ease of use, clean up, sanding and cost, wood glue can't be beat!

from Plane Talk
Syd Russell, Editor

7321 Yew Street
Everett, WA 98203

Local Events in June and July:

JUN 7—New Hampton, IA (C) Spring Fly In. Site: Airport. Dole Adams CD, 114 N. 9th St. Osago, IA 50461. PH: 515-732-5940. Dawn to dusk flying. Must show AMA license to fly. Sponsor: NEW HAMPTON CROSSED SIGNALS

JUN 13-14—Ottumwa, IA (C) Class C Fun Fly. Restricted to IMAA members. Site: Ottumwa Industrial Airport. Ronald Beasley CD, 1906 N Court St Ottumwa, IA 52501 PH:515-684-4375. Sponsor: OTTUMWA RC FLYERS

JUN 20-21—Montezuma, IA (C) SIG's 24th Annual Fly-In. Site: SIG Field. Al Grier CD, 13003 Castlebar Dr Sun City West, AZ 85375 PH:602-546-2205. Still one of the larges fun fly events in the US. Events for every skill level, bring your kadets, cub, hogs, 4 starts, etc & 1/4 scales. No entry fee. SIG models only, except 1/4 scale. Everyone that flies wins a prize. Contact SIG Mfg for events and rules 401-7 Front St Montezuma, IA 50171. Sponsor: SIG MFG/DES MOINES MODELAIRES

JUN 27—Keokok, IA (AA) 2nd Annual Sailplane Meet for 442 and 444(JSO). Site: Double D Ranch. Robert Thompson CD, 326 N 5th Keokuk, IA 52632 PH:319-524-8084. Sponsor: EAGLE SQUADRON

JUN 27-28—Montezuma, IA (AAA) SIG CL Championships for 319-321, 323-326(JSO), 328-329(JS)(O). Site: SIG Field. Mike Gretz CD, PO Box 162 Montezuma, IA 50171 PH:515-623-5772. Skyray 35 carrier (JS)(O), Skyray 35 sport race (novice) (open), old time stunt and classic stunt (JSO). Sponsor: SIG MANUFACTURING CO

JUN 28—Grimes, IA (C) SAM Old Timer Meet. Site: Club Field. Al Grier CD, 13003 Castlebar Dr Sun City West, AZ 85375 PH:602-546-2205. SAM rules apply to all old timer models. (RC assist) 3 flights, 10 min max, 30 min total. 25 sec eng run for glow, 45 sec for elec, also a climb & glide event for any type model, same rules. Sponsor: DES MOINES MODELAIRES

JUL 11-12—Oelwein, IA (C-restricted) IMAA Fly-In. Site: City Airport. Robert Nelson CD, 433 Ardmore Waterloo, IA 50701. PH: 319-233-4771. Sponsor: BLACK HAWK R/C PILOTS

JUL 12—Lake Mills, IA (C) July Jubilee Fly In. Site: Lake Mills Airport. Delane Behr CD, 208 S. 4th Ave W. Lake Mills, IA 50450 PH: 515-592-4195. Site: Lake Mills Airport 1 mile east of care center on south 10th Ave. East.

No landing fee, no contests, just fun, drawing for prizes 11am to 5pm. Sponsor: JULY JUBILEE COMMITTEE

JUL 12—Stormlake, IA (C) Summer Fun Fly. Site: Municipal Airport. Steve Swanson CD, 606 S. Main St. Alta, IA 51002. PH: 712-284-2506. Time 10:00am until dark $3.00 landing fee. Any size RC planes welcome. Limbo, egg drop, spot landing, bean carry fun fly events during the afternoon. Sponsor: NORTHWEST IOWA RC CLUB

JUL 25—Marion, IA (C) Sky Hawks 5th Annual Heli Fun Fly. Site: Marion Field. Rich Michels CD, 1230 6th Ave. NE Independence, IA 50644. PH: 319-334-6883. Open flying, beginners help, demo flights. Events: bottleknock, dragraces, times hover awards for top 2 places in events 9am till dark. $5.00 landing fee. Sponsor: CEDAR RAPIDS SKYHAWKS

JUL 25—Davenport, IA (C) DR/CS 3rd Annual Scale Fun Fly. Site: Seven Cities Sod. Phil Vernon CD, 237 W. 46th St. Davenport, IA 52808. PH: 319-386-8205. Models must be scale replicas of full size aircraft. Photo of subject is required. Models must fly to compete for major prizes. 3 classes - Giant, Military, & Civilian. Trophies awarded in each class based on popular vote. Registration start 8:00am. Open flying 10:00am-3:00pm. $5 landing feee. Food! E-Mail - bigphil@qcom.net. On the web at www.2ask.com/syn23/drcs. Sponsor: DAVENPORT RADIO CONTROL SOCIETY

Heads Up, CMA Activities

Thursday, June 4, 5:00 pm — Club Meeting
Friday, June 19, 5:00 pm — FlightLine Deadline
Thursday, July 2, 5:00 pm — Club Meeting
Friday, July 24, 5:00 pm — FlightLine Deadline

Note: Meetings are held in the 35th street N.E. Facility (main plant) Cafeteria building 140.

Send your input for the CMA Web Page to:

Steve Plantenberg x5-9625
scplante@cacd.rockwell.com

For an AMA membership application:

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

Flight Training

Flight Training has started and is held Tuesday and Thursday (weather permitting) every week during the summer. On Tuesdays one of the club trainers is usually available for beginner training.

1997 CMA Staff

President:	**Crist Rigotti**	**x5-0612**
Vice President:	**Floyd Van Auken**	**x5-4057**
Secretary/Treasurer:	**Doug Emerson**	**x5-2356**
FlightLine Editor:	**Jim Doty**	**x5-2931**
Web Page Editor:	**Steve Plantenberg**	**x5-9625**

Flight Instructors:
Rich Dean
Tom DeWulf
Mark Woytassek

Flight Instructors in training:
Irv Anderson

Test Pilots for first flights of new airplanes:
Rich Dean
Mark Woytassek

Send your input for FlightLine to:

James H. Doty
MS 124-111
x5-2931
jhdoty@collins.rockwell.com

For membership information:

Contact: Doug Emerson
CMA Secretary/Treasurer
MS 153-260
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daemerso@collins.rockwell.com

AMA National Newsletter goes on-line:

http://modelaircraft.org/News/Newsletters.htm
For selected articles from AMA club newsletters around the country

1997 CMA Membership

NAME	M/S
Irvin Anderson	108-103
Geoffrey Barrance	108-166
Alan Bechtold	124-224
Bob Buschette	108-260
Kyle Chapman	124-111
Brian Collins	107-150
Dan Cooley	124-111
Rich Dean	124-115
Jim Doty	124-111
Mike Eastman	106-183
Doug Emerson	153-260
Scott Emerson	105-167
Frank Gutierrez III	108-166
Richard Kelly	124-115
John Michael	108-166
Patrick Neu	108-136
Marion Payne Jr.	137-146
Steve Platenberg	137-152
Crist Rigotti	164-100
Duane Smith	108-135
David Sneitzer	124-115
Van Snyder	108-104
Steve Timm	105-190
Floyd Van Auken	107-140
Charles Ward	139-142
Tom Wachtel	106-186
Bryan Wesner	153-260
Mark Woytassek	137-137

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109 3rd Ave. S.E.
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H & J Hobbies
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Hobbytown
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Cedar Rapids, IA 52404