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**The Next Meeting:  
Thursday, May 2, 1996  
Dublin Community Center, Union Lake Rd.  
Union Lake, MI - Everyone Welcome!**

# Ampeer

**Color Me Gone**  
by Dr. Robert Suding  
from MAA  
Russ Roepke, Editor  
2805 Palmetto Drive  
Temple, TX 76502

Almost everyone has had that 'I can't tell which way it's going' feeling when learning to fly R/C. Several simple color trimming steps can help you fly your airplane better, whether you are a beginner or top dog in FAI.

Most planes are covered or painted to look good in the pits. But in the air, it's a different story. The situation is really simple, if you can't see it, you can't fly it!

In this article, we'll analyze what's required for good aircraft visibility, and make recommendations so you will have more success and fun at the flying field.

To successfully operate an R/C aircraft, the pilot must have good orientation and distance perception. The human eye estimates aircraft orientation based on the perceived position of the model's outer edges, and relationship of the outer edges of any

discernible trim markings on the plane's wings and fuselage. Distance perception, in turn, depends on a combination of one's perception of the aircraft's outside edges and its estimated orientations:

- Is it flying toward me or away from me?
- Is it upright or inverted?
- Are the wings flat, vertical, or tipped?
- Is it flying horizontal, upward, or downward?
- Is it moving parallel to the runway?
- Am I pulling or pushing vertical in FAI?

The following suggestions will help you with distance and attitude perception. Visual acuity and contrast perception diminish with age, but by using correct color concepts, even senior flyers will find that visual orientation of their aircraft can be consistently and reliably achieved.

**Solid Covered Aircraft**

R/C airplanes are flown in all kinds of weather and background conditions. A solid colored aircraft will sooner or later fly into a condition where it blends into the background, resulting in a complete loss of location since no edges can be perceived.

**What's in this issue?**

Color Me Gone - Springtime Radio Care - How to Solo Quicker - Monokote Trimming Tip - New KRC Site for '96 - Spring Checkout - E-Flight in Holland - Cool Your Batteries - Upcoming Connecticut Meet - Ultracote Transparent Lite - Helicopter Challenge - Mid-America info - In May

The absolute worst, in my opinion, is a silver Mustang on an overcast day. Yellow Cubs are tough to see when backlit by the sun. My dark green Sweet Stik would disappear when my landing approach was too low and the sight line dipped below the distant tree line. Red Stiks and dark blue sport pattern planes go invisible in late evening and storm conditions.

### **Wing and Horizontal Stab Shades**

The top of the wing is normally lit by sunlight. The bottom of the wing is shadowed. Coloring the top of the wing and horizontal stabilizer lighter and the bottom darker keeps the same orientation in varying lighting conditions. Almost all ARF trainers have a wing that's identical, top and bottom. It is recommended that beginners cover the bottom of the wing and horizontal stabilizer with dark blue contact paper or covering before flying these planes. Then the beginner can quickly learn that the dark side is the bottom side. The exact dark color is not important

### **Geometric Shapes**

Your brain is able to recognize significantly different shapes more quickly than colors, especially in poor light caused by heavy overcast, evening flying and back lighting. I use large red circles under the wing and horizontal stabilizer and straight lines on top of the wing and horizontal stabilizer, which results in instant orientation recognition, especially when doing vertical rolls and spins in FAI patterns. The color of these large circles isn't important as long as they're a very highly saturated, darker color against the background.

### **Perception of Orientation at a Distance**

When flying at a distance of 500 feet or more (depending on the size of the model and lighting conditions), you don't see colors, since the rods of your eyes that do the color perception are 2,000 times less sensitive than the cones, which perceive illumination. Also, at this distance, your perception of depth is no longer based on parallax but on the subconscious training you've experienced since birth which tells you that brighter and bigger is closer, and darker and smaller is farther.

In these circumstances, your gray scale vision, i.e., your perception of lightness and darkness in a black and white image, provides your orientation and depth perception, not color. Any series of adjacent colors on your aircraft that are intended to facilitate orientation should therefore be gray scale opposites. Those that have the same dark gray scale will show a tendency to disappear in a deep blue or heavily overcast sky.

If you use the wrong series of color bands, you won't know how far away your aircraft is, and you won't even know which way it's heading to bring it back. Also, don't rely on intricate patterns. They blend together to form

edgeless fuzz approximately 100 feet away. You can test potential color schemes for gray scale perceptibility by video taping and playing back the color scheme on a black and white, TV or on a color TV with the color turned down.

### **Landing Considerations**

Landing requires keeping your wings flat and knowing where you are in the landing approach. You're generally close to the airplane during the later stages of the landing approach, so your color perception is improved, but the leading edges of the wings should be very prominent against any background such as a blue sky, white clouds, overcast, trees, etc. Most of these items have spectral lines toward the higher frequency blue or green region, so a very simple procedure would be to have a red or orange leading edge on your wing and horizontal stabilizer. Straight fuselage color lines help to maintain the downward glide path. Color lines parallel to and above the fuselage horizontal thrust line give a much better angular reference on the glide path prior to the final turn.

### **Looping**

Looping maneuvers also require keeping your wings flat. When flying parallel to the runway on loop entry, the wing and horizontal stabilizer are edge on and least visible at the exact time when orientation is most critical. The airplane is close, so color perception is excellent. If you make the wing tips and horizontal stabilizer tips red or orange, and the body background a very light color such as white or yellow, you can easily flatten or slightly tip the wings to achieve perfect loops, Immelmans, etc. The red or orange tips will stand out on most backgrounds behind the aircraft if the plane is tipped slightly toward you. The horizontal color scheme of a low wing pattern airplane's fuselage must provide a line reference, as mentioned in the landing section, so that entry into the looping sequence is level. Many pattern airplanes have gently curved or slanted color lines running along the length of the fuselage that misguide the contestant on horizontal passes.

### **Directional Orientation at a Distance**

The perceived view of a distant airplane flying away at a 45 degree angle can be identical to an airplane flying inward at a 45 degree angle, especially in heavy overcast conditions. If you use a starburst pattern on top of the wings, top of the elevator and both sides of the rudder, you can instantly perceive direction of movement as an in or out arrow head, by roiling the wings slightly.

### **Tips for Better Aircraft Visibility**

\*Avoid single color aircraft, particularly solid silver or solid dark colors.

\*Beginners are advised to color the bottoms of aircraft wings a dark color, and the tops a light color.

\*Orientation recognition can be enhanced by placing

large dark circles under the wings and a starburst pattern of straight lines on the top.

\*Any series of adjacent colors on your aircraft that are intended to facilitate orientation should be gray scale opposites, not color opposites.

\*Don't rely on intricate patterns, they tend to blend together to form an edgeless fuzz approximately 100 feet away.

\*A bright red or orange leading edge on your wing and horizontal stabilizer will help you keep your wings level during landings.

\*Color lines parallel to and above the fuselage horizontal thrust line provide a good angular reference on the glide path prior to the final turn.

\*For better loops, make the wing tips and horizontal stabilizer red or orange and the body background a very light color such as white or yellow. This helps you tell whether the wings are flat.

\*Curved or slanted horizontal color lines on the fuselage can contribute to disorientation on horizontal passes, upsetting entry loops.

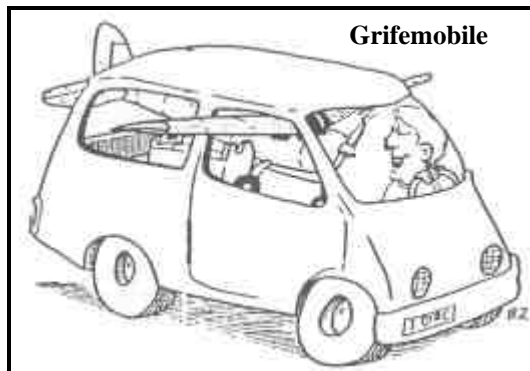
\*Grey tinted sun glasses are recommended. Orange tinted sun glasses discouraged.

\*An aluminum spinner and a light colored nose can result in off centered maneuvers due to an ill fated front edge.

\*Try out different color schemes and patterns on small scale balsa gliders to see how well you can see them in the air.

(Editor's note: It's obvious that Dr. Suding is most probably related to the field of optometry. For this reason I

will consider this professional GOOD advice. I do however own a tinted orange pair of sun glasses that I use on overcast days with great success. They seem to brighten up the back-ground and help me considerably. I also hope that next flying season this information helps and I don't hear, "I can't see the !@#\$\$%A&& thing" as much.)



Dave Grife on the way to the field.  
Ever been there?

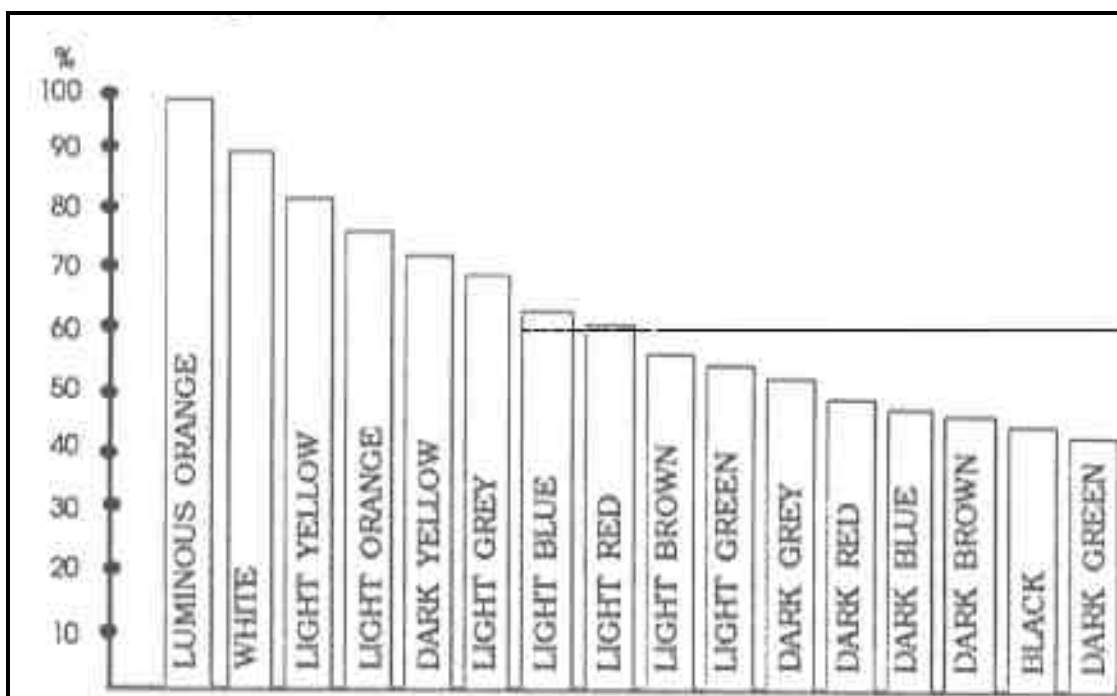
**Springtime Radio Care and Other Matters**

by Tom Massopust  
from Just Plane Talk  
Jim Pasmussen, Editor  
Marshfield, Wisconsin

Dead battery cells are the most common weakness of our radio systems in the springtime. The only effective way for the average modeler to detect a weak or dead cell in a battery pack is to cycle the batteries using a commercial cycler. Cyclers are an essential part of your equipment, and if you don't have one, before you buy that next engine or kit, invest in a cycler.

The cheapest cycler on the market, called the RAM Simple Cycler, sells for about \$15, and those that automatically discharge and recharge your batteries can run up to about \$100. Even such expensive ones are worth it to you if it helps you avoid a crash.

What a cycler will do is place a known discharge load on the battery or transmitter pack which is a greater



load than when you are running the system in flight. The cyclor will then draw down the capacity of the battery pack until individual cells reach about 1.0 to 1.1 volts per cell. With the cheap cyclor you have to be around to shut it off when the buzzer sounds. With the better ones, they shut themselves off when this critical voltage is reached. Those cyclors with built in chargers then proceed to recharge the pack to full voltage, usually around 1.23 or more volts per cell, which is about 5.1 volts for a whole flight pack, and 10.0 volts for a transmitter pack, since all the cells are wired in series, and their pack voltages add up.

The time you recorded for discharge (shown automatically on the clocks that come with the better cyclors) multiplied by the discharge rate is your indicator whether your pack is healthy or not. For example, a discharge load of 250 mah and a cyclor discharge time of 2.0 hours indicates a capacity of 500 mah, which is the typical of the pencil size nicads we use. If the time is markedly down from that kind of a computation, it is wise to go looking for the problem cell or cells. Since nicads lose some charge during storage time, estimated at 5% per week, that loss should be taken into account if you do a discharge cycle after your cells have been sitting unused for a month or more over the winter. I recommend cycling over the winter once every one or two months.

One reason a cyclor is so important is that cells should not be discharged below 1.0 volts per cell. Once nicads get below that they rapidly drop to zero volts. If a pack of cells is continued to be discharged with one or more of the cells at zero volts, when recharging takes place, the zero volt cells will charge in reverse polarity, possibly ruining the cell.

Among other reasons for "deep cycling" your cells periodically, which is what a cyclor does because it takes the cell voltage down close to the critical point, is that it helps restore full capacity to the cells. Our tendency to only discharge the pack partially when we fly, and then recharge, over time builds a "memory" into the pack in which that shallow discharge becomes the new capacity of the pack.

Your second best investment after a battery cyclor is an Expanded Scale Voltmeter (ESV). These devices are calibrated to read those very minor changes that take place in nicads as they change from one level of capacity to another. If you are flying a lot at the field, it is wise to take measurements between flights to be sure capacity is dropping proportionally to flying time. Sudden drop offs in voltage are warnings that one or more weak cells are in the pack.

The meter on your transmitter is not all that useful for measuring battery condition. The meter is really only measuring RF output, and does not drop very much as the battery pack is lowering its voltage with use. By the time the

meter does drop off, it may be too late. But with your ESV, you can monitor the transmitter pack at the field quite accurately.

Ditty antennas are another frequently overlooked culprit in the causes of springtime difficulties. Antenna sections are connected to each other by internal phosphor bronze fingers riding inside the tubes. This metal has some tendency to corrode, which reduces the effectiveness of the antenna. But the oil we get all over the antenna from hands and spray from the model also gets inside these antenna sections as we collapse them, and that further weakens the electrical contacts of the bronze fingers.

I have had some antennas in my shop so dirty that they generated 1000 ohms resistance, measured from the base to the tip of the antenna!

You need to clean that antenna. Make sure you get some of the cleaner inside so that the phosphor bronze contacts can be restored. LPS-1 spray cleaner sold in electronics stores is what I use. Plain alcohol will also work. The object is to wipe down the outside surfaces as clean as you can, then get the surfaces wet again, and repeatedly extend and collapse the antenna on itself so that cleaner gets inside onto the bronze and inside antenna surfaces.

### **Hints for Students to Solo Quicker**

from Citrus County R/C Club Newsletter

Lou Lopez, editor

724 Holmes Avenue

Inverness, IL 32650

I have been an instructor for just over a year now. Before that, it seems I was a student flyer forever. I may not have made all the mistakes possible in learning to fly, but I bet I made 95% of them! To help beginning students along the learning curve, I decided to point out my biggest mistakes.

#### **1) Get help before you buy your first plane.**

Sounds simple, but most students come to the field for the first time with their major purchases already made. In many cases, they have wasted their money on planes they won't be able to fly for a year. These planes either wind up in some closet or in pieces all over the field. Do some research before you buy. Ask an instructor, ask club members, ask somebody with airplane experience at the hobby shop to point out a good basic trainer and dependable engine.

#### **2) Get help while building your first plane.**

Many of the "first time" planes I have seen at the field are almost unflyable. Our club has many experienced builders who are willing to help you avoid building mistakes. They can make your life a lot easier, and your plane a lot more enjoyable to fly. You will learn to fly faster

and easier if your plane is properly constructed. Bring your building projects to our meetings for help.

### 3) Make your first plane BIG!

Small trainers are just a waste of money. A bigger plane is easier to see, flies better, and you will not outgrow your equipment as rapidly.

### 4) Don't fall in love with your first plane.

Make it strong, make it straight, make it simple, and get it in the air as quickly as possible. Your first plane is bound to get knocked around, so don't "super detail" it. You can spend all that extra building time on your second plane while you are learning to fly with your first plane. I spent at least two weeks putting fake windows, stripes, etc. on my first plane. It didn't make it fly one bit better, and it just put me behind at least two weeks worth of flying lessons. If I were doing it all over again, I would buy a used trainer at a swap shop.

### 5) Make your plane SUPER EASY TO SEE!

You should be able to tell the difference between the bottom and top of your wing IMMEDIATELY. Too many beginners finish both sides the same. Since the eye/mind responds to shapes before color, put some great big round "meatballs" on the bottom of your wing. You'll be able to see them a mile away and the fractions of a second it saves in response time will someday save your plane. Also use easy-to-see colors. Use orange and red. Leave white home.

### 6) Find the right instructor for you.

Instructors are all different. Some yell, some don't. Some supervise your every move, some let you learn by doing. Some spend time in "ground school", some just put it in the air and fly. Find the instructor whose temperament and methods best fit your particular learning needs. You'll both be better off. A "wrong" instructor will only frustrate you and draw out your learning process.

### 7) Tell your instructor you are ready to fly.

Let him know when you are ready. Instructors are normally too busy to know if you are ready to go or just need some more cooling off time. It is not impolite to tell the instructor that you are ready.

### 8) Be ready to fly before leaving home.

Instructors should not have to finish your building for you. Building at the field wastes your time, your instructor's time, and the time of the other flyers waiting to use the frequency. Missing a flying day because your plane is not ready is a real sure way to stretch out the learning period.

### 9) Don't be afraid to talk to your instructor.

If you don't understand the point he is trying to make, just say so. If you don't have control of the plane, yell out. If you are losing concentration, have him land the plane. The instructor can better teach you if he knows what is going on in your head.

## Monokote Trimming Tip

from Honlogger  
Davis Egle, Editor  
2735 Poplar Lane  
Norman, OK 73072

Trying to put Monokote over Monokote (as in adding a second color for trim) is a genuine headache. The second layer is hard to position because it won't slide and, when you iron it down, bubbles appear between the two layers. Here's a sure fire way to put the second layer down, position it exactly where you want it, and never have a bubble.

After you iron down the first layer, clean it with "Windex with Ammonia D". Make sure you get all the fingerprints, dust, etc. off the bottom layer. Cut the piece to be added and remove the plastic backing. Spray a light coat of Windex on the first layer and lay the trim piece on the layer of Windex. The Windex allows you to slide the trim piece around and position it where you want it. After it is positioned, use a thin, flexible card to squeegee the Windex out from between the two layers of Monokote. Soak up the excess Windex with a paper towel. Continue to squeegee and soak up the excess until the trim layer is perfectly flat and all the bubbles are gone. Set the part aside to dry for several hours, preferably overnight. When the Windex is dry, use an iron set to low to set the adhesive around the edges of the trim piece. Don't heat the center, only 1/4 to 1/2 inches around the edges.

## Greetings from the Keystone Radio Control Club.

Please be informed that the 1996 KRC Electric Fly is scheduled for September 21 and 22. Setup will be late afternoon (after 4PM) on Friday September 20, 1996.

Shortly after the 1995 KRC Electric Fly, several of our members began a search for a new location to use in 1996. Headed by our new event manager and club Vice-president, James Wolstenholme, several sites were considered and QUEEN CITY AIRPORT was chosen.

Queen City Airport is located in **Allentown, PA.**, just 15 minutes drive north of the old site up route 309. It was picked for several reasons which included its close proximity to the previous location, allowing folks that have made reservations for lodging last year to keep their plans and still be within a comfortable drive to the event. The airport has been host to several other gatherings in the past which have turned out quite successful. These include Giant Scale meets put on by the familiar BuLe Airosportsman Club as well as a Ballonist Festival held yearly. The management that runs the airport were pleased to welcome us in this year.

The move to a new location was in response to size

restrictions at the Quakertown site. Though the old location had a large flying area, the ability to get our participants onto the field with adequate parking and setup space was a concern. Queen City Airport will easily solve this situation. And there are many more advantages to the new location.

We currently have members researching the Allentown area for motels and hotels as well as available restaurants. A map is being worked up to help guide our participants to the new location. This information will be included in our mailer. If things go right, this mailer will be completed by the middle of April and sent out to our past participants by the middle of June as has occurred in the past.

The field conditions are improved. With the proposed location of the flightline along the runway, our meet participants can choose to use either the blacktop or the open field next to it. The width of the flying field area is over 500 feet and the length is close to 1000 feet. The overflight area is surrounded by industrial park, with several factories in the distance.

There are two areas designated for parking. One area capable of holding up to 200 vehicles will be located behind the runway. This area will be for campers and registering pilots. An access road is located adjacent to the runway where vendors wishing to participate this year will be able to set up. A second parking area with a capacity of 600 vehicles is located to the side of the sight within a few minutes walk from the flight line. There is also a parking lot next to the hangar which is to be designated for handicapped parking.

The Saturday night Dinner/Social will be held in conjunction with the Historic Society which is based at the airport. It will be a quality catered dinner in the hangar at the airport. Included with dinner will be a World War 2 era band and dancing for our entertainment. As in the past, casual discussion and bantering will still be the focus of the evening. The Historic Society has announced that WW2 dress is encouraged but not mandatory. This sounds to be quite an interesting event and will include some full scale planes in the decorated hangar with us!

The SR Symposium is still on as far as I understand. Larry Sribnick of SR Batteries, who organizes and runs the informative gathering, has expressed to me that he will adjust his plans. He is hoping to locate the presentations close to the new site. Information will be coming from Larry as soon as his plans are firmed up.

In closing, members of the KRC club are proud to host this year's event. As always we are doing our best to make this event as safe, convenient and fun for all participating RC pilots and spectators. We are hoping that the KRC event in September will continue to encourage more participation in RC flying and modeling as well as be a showcase for just

how far electric powered modeling has come in the last 20+ years.

I will be co-managing the event this year with Jim Wolstenholme. Normally I log onto CompuServe on a weekly basis, so any questions addressed here will be responded to within a few days. Please forgive any delay you might experience.

Until September - Enjoy our hobby and get in lots of successful flights!

Anthony Assetto - 96 KRC President  
Located on CompuServe at 102723,2566

### De-Mothball Checklist

The weather is beginning to look more and more like flying so it is time to dust off your plane and get set to go. To help get started, here is a checklist printed in the Beresford Area Flyers newsletter, Alcestar, South Dakota:

1. Check overall appearance of aircraft for obvious safety flaws.
2. Check motor and prop for security in the mounts (wiggle it).
3. Check prop for cracks or damage.
4. Check cowling (if applicable) for condition and security.
5. Check left wing panel for cracks or loose covering.
6. Check left wing strut (if applicable) for condition and security.
7. Check left wing aileron hinges (pull on it).
8. Check left wing for obvious warps.
9. Check fuselage for general condition.
10. Check tail group for security, cracks and loose covering.
11. Check elevator for condition, cracks and loose hinges (pull on it).
12. Check elevator control horn for security (wiggle it).
13. Check elevator control system for slop in the connections.
14. Check rudder for condition, cracks and loose hinges (pull on it).
13. Check rudder control horn for security (wiggle it).
16. Check rudder and tailwheel control system for sloppy connections.
17. Check right wing panel for cracks or loose covering.
18. Check right wing strut (if applicable) for condition and security.
19. Check right wing aileron hinges (pull on it).
20. Check right wing for obvious warps.
21. Check mounting and connections of all servos.
22. Check landing gear and wheels for security and condition.

23. Check batteries...cycle and check condition.
24. Do a range check and control surface movement check.

A systematic check such as this one done at home might save you a trip to the field for nothing. It is also a good idea to do a check every so often during the flying season to catch potential crashes before they happen.

Now, if we could devise a "checkout procedure" to preclude "operator error"!

#### **Hello from Holland**

from Harold van Berk  
hvberk@ihlpw.att.com

I found your homepage address in a modelnet article you posted on compuserve. Your homepage contains just the sort information I was looking for.

#### **Downloading Ampeer:**

Since I work (via datalinks) on computers located in Indian Hill (near Chicago), it only takes 15 seconds to download an Ampeer issue. (and then 15 minutes before I have it on a 3.5 disk (here in Holland) to take it home. PDF format works for me at home.

#### **Technology in Holland:**

Like most of Europe, electric flying here in Holland is dominated by German technology. Nowadays big German model suppliers have (very) many types of motors in their collection. Graupner has production types of Hectoplett they call 'Ultra', and Robbe re-engineered the old Keller line. This year Robbe will introduce AEVOX. Astro is also available through Multiplex (also German). Astro is about the same price as European stuff, but still not very popular due to 'imperial' units on axis and bolts.

Keith Shaw wrote, in his scale story, that Europeans prefer to change to an armature with different turns rather than use a gearbox. He is right about that! With most of my motors, I have a second armature (MEGA r3, r4, old Keller 50/8,50/11, Keller 40/10,40/6) I think the lack of good gears caused that. Now good gears (like Kusse introgear) are available this is changing rapidly.

Same story applies for ESC. Speed controllers originally developed by contest flyers are now marketed by mainstream suppliers.

#### **What most people fly in Holland:**

Most people start off with 7 cell gliders with speed 600 (05 can type) motors just to try. Later people use 10 or 14 cell 'hot-liners'. 'Hot-liner' sounds english, but is a German word to describe contest lookalike (F5B) glider planes. Some people prefer the 'soft-liners' (duration flight in normal English).

Pylon racing (F5D and speed 400) are gaining in popularity.

I don't see many scale or sports planes around here.

I also like to fly 'hot-liners', but I fly more with Speed 400 racers and Speed 400 powered HLGs. My F5D pylon racers always crash.

My next project will be a big stick sport plane (12 lbs. 28 cell, Keller 50/11, Krusse gear 2:1 and 16x8 prop). Instead of building, I spend more time on designing planes (most I will never build), calculating power systems on how to go vertical and reading electric flight articles in magazines and InterNet. I read Elektro-modell (German), Silent Flight and Quiet Flight International.

#### **Some Feedback:**

1. QFI is now a Traplet magazine like EFI. Please update your list. (okay)
2. Some Ampeer readers obviously use computer programs to model their power systems. Could you provide information in the homepage. (*great idea - thanks km*) on (free or commercial) software you know of and how to obtain it?

#### **Cool Your Batteries**

from Tom Darragh  
7383 Aqua Isle  
Algonac, MI 48001

Most of my aircraft have batteries that are less than convenient to remove and I wanted to build a cooling fan that could be used at the flying field to reduce turn around time in the pits. I sent an inquiry to Bob Kopski looking for ideas and was surprised to hear that he uses a hair dryer.

Based upon this hint, my wife gave me an old dryer she no longer uses ( a WindmereTurbo 1200). I found that it contained a small DC motor by Mabuchi. Further examination revealed that the heat coils on the dryer acted as large voltage dropping resistors and that diodes were used to convert to DC. I removed the heat coils and diodes, connected the motor to the dryers three position switch for a simple on/off function, replaced the AC plug on the cord with alligator clips and installed an in line fuse holder. The end result is a blower that runs on 12VDC, normally draws just over 400 MA and provides a generous volume of air. I fused it at 1 Amp because the start up surge was very close to 500 MA.

To route the cooling air from the blower into hatch openings on my various aircraft I made a 2 1/4 inch square tube nozzle with a 60 % angle on the open end from a plastic FOR SALE sign I purchased at ACE hardware. This material is about 1/32 thick and can be permanently bent at right angles by heating with a heat shrink gun and pressing it over the edge of a workbench with wooden blocks until it cools. I then connected the blower to this nozzle with a 3 foot piece of 3 inch diameter flexible plastic clothes dryer vent pipe ( The white plastic accordion fold type with a coiled wire to give it shape). I removed the first "coil" of wire

### Northern Connecticut Radio Control Club Event

In the spirit of the Wright brothers, we'd like to invite you to bring your innovative electric powered aircraft to the NCRCC'S Ortolani Field on June 29, 1996 for an electric fun-fly. There will be no contests, just plenty of camaraderie, good food, swapping of ideas, and a day devoted to the joys of electric flight!

We are planning to give away prizes to those who wish to fly and contribute to our event. The drawings will occur every hour and will start with the opening of the fun-fly at 8 AM until closing at 4PM. The entry fee will be \$10.00 per person--additional tickets for the prize drawings may be purchased for the same amount.

We invite all pilots to vote for the most impressive plane flown during the event based on technical merit, performance, and originality. There will be an award at the end of the event to present the winning plane and pilot. Each pilot will have one vote to nominate the winner

There are rest facilities available and 15 acres of prime flying field for this AMA sanctioned event. All pilots must show a current AMA registration and agree to the club's flying rules including frequency and transmitter impounding.--Ron Torrito AMA 3342 (203-528 2227) 1625 Main St., East Hartford, CT 06108

Come fly with us!!!

### New Covering Material and Cool Tip on Using 2 Iron from Bob Aberle in letter to Glen Poole

Thanks to my friend, Fred Mulholland, down in Tampa, I learned several months ago that Carl Goldberg Models has just come out with a new ULTRA-COTE TRANSPARENT LITE iron on covering material. It is about half the weight of transparent Super Monokote. It has its own adhesive. Besides the regular colors they will shortly have transparent purple and white ---- think about that! It applies with great ease, going around compound curves without problem and it adheres once and for all to solid wood surfaces, without the need for a Woodpecker. It is expensive, at about \$15.00 per roll (24 inches wide X 6 feet 6 inches long). Tower has it in stock right now. One last tip I can give you. The shrink rate is quite high. So if you hit this covering with high heat as you tack it down, it will crumble up on you. I found it easier to use two irons. One is set at 30% heat for tacking, while the other is at 75% heat for the finishing, By using two irons, you can speed up the covering process by not

having to wait for the heat to continually readjust.

By the way you ought to take a look at Tom's (Hunt) new DEFIANT-430 for the 1/2A Electric Sailplane event. It is a scaled down DEFIANT using a new custom fibreglass fuselage that weighs only 2.6 ounces. Flying weight is 21.5 ounces on 7 cells, Speed-400 motor (geared this time). You can just guess the performance we are getting. Doug Ward just received our first semi-kit, because he wants to beat Tom at Muncie!

### Speaking of Muncie

**Remember to preregister to save yourself  
\$\$\$\$ - Remember the DATES for the E-  
NATS - July 20, 21, 22 - see you at Muncie!**

### A Helicopter Challenge

from Martyn McKinney  
808 Millwood Rd.

Toronto, Ontario, Canada M4G 1W2  
Telephone (416) 322-3327

Ken:

It was with interest that I read the article on ECO helicopters by Wolfgang Nitschmann in your April issue. Approximately 5 years ago I bought a Kalt Whisper and a Kyosho EP Concept to see what if anything could be done to improve their performance and flight times.

I eventually ended up writing a Lotus spreadsheet in which I could analyze changes in performance when any parameter was changed. My conclusion was that with today's technology it would be virtually impossible for any electric helicopter to hover for longer than 12 minutes no matter what size or quantity of batteries were used.

As a result of this analysis I would like to offer a prize of \$100 U.S. for the first individual that can meet the following criteria.

1. The ELECTRIC powered helicopter must be completely self-contained (no umbilical cord) and fly under its own power (no solar cell assist).
2. It must take off from the ground under its own power (no power assist launches) and must hover at a minimum altitude of 6 feet for 15 minutes.
3. It must stay within a circle of 10 feet or 3 meters (I have tightened up on this rule because I want to emphasize hovering rather than flying).
4. The wind speed must not exceed 10 MPH during the entire flight.

I would like to offer the prize with a time limit ending December 31, 1997.

Any takers? --- Martyn McKinney



**Mid-America Electric Fly**  
AMA Sanctioned

Saturday, June 1 & Sunday, June 2, 1996

Hosted by:

**Ann Arbor Falcons and Electric Flyers Only**

your Contest Directors are:

**Ken Myers** phone (810) 669-8124 or  
102575.3410@compuserve.com  
**Keith Shaw** (313) 973-6390

Flying both days is at the Ann Arbor Falcon's Field,  
Monroe Rd., Saline, MI (see map)

Registration: 9 A.M. both days  
Flying from 9 A.M. to 5 P.M.

**Gold Stickered Transmitters are REQUIRED!**

All 50 frequencies will be used

Wide band receivers will be accommodated as best as possible

Saturday's Events

- All Up - Last Down
- Longest Timed Flight
- Best Scale (must fly)
- Most Beautiful
- Best Multi-motor
- CD's Choice

Sunday's Events

- All Up - Last Down
- Longest Timed Flight
- Best Scale (must fly)
- Most Beautiful
- Best Mini-Electric
- CD's Choice

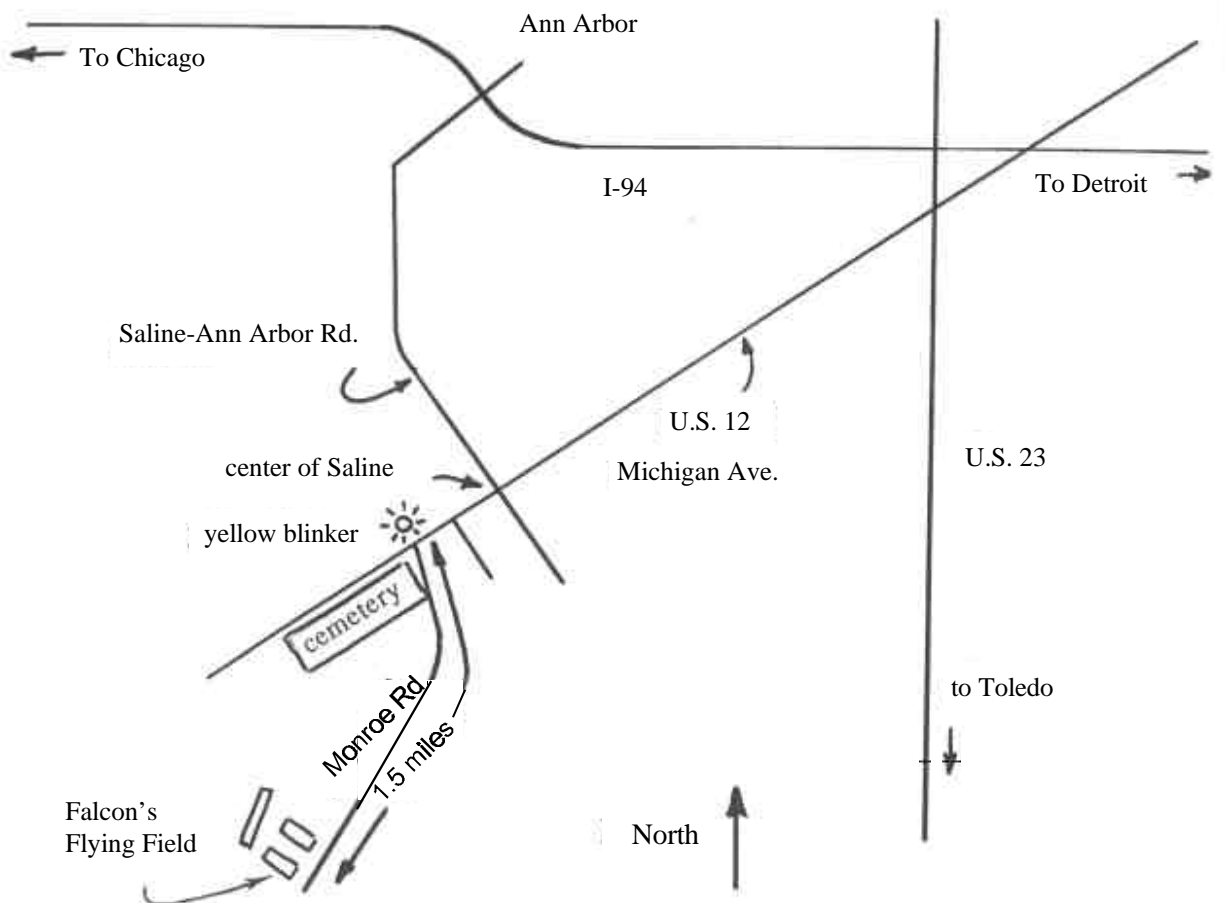
Refreshments will be available at teh field both days.  
**There will be a pot-luck picnic on Saturday evening.**

Come and join us for two days of fun and relaxed electric flying.  
Even though this is called a contest, the purpose is fun  
and the enjoyment of sharing the electric experience.

**Come, Look, Listen, Learn - Fly Electric - Fly the Future!**

**Saturday's & Sunday's Awards:  
Plaques for 1st in each category**

**Merchandise drawing for ALL entrants**



map not to scale

## May Meeting

The May meeting is the last one before the BIG ONE on June 1 & 2, so please try to make it. Please bring any new planes, or even ones under construction. We will be discussing the Mid-America meet, jobs there, passing out membership cards, collecting dues, trading war stories, and I'll do a building on glass bit for you, to "remind" you how to do it, or show those of you who don't know.

This is an important meeting, and it would be nice to see you before the meet.

The last meeting, again, moved to Ken's house, where Mike was introduced to the InterNet and all of the interesting things that are out there.

Toledo was disappointing in what was there. I'm getting really tired of asking Hobby Lobby if they have....? Would you believe that it took them 4 shipments to get me a little order including 2 Speed 400s, a gear drive and some props.

**Remember the Mid-America Flies**  
**June 1 & 2**  
**Fly the Future - Fly Electric!**

## Upcoming Events:

**May 18/19** Memphis in May Fly-In, LMR events, All Up/Last Down, & more, Bills Jenkins (901) 362-2119

**May 18** Burlington County R/C Club Annual E-Fly relaxed, with all events being heavily dependent on luck. Can provide PCX or .BMP format map. Bill Bowne 609-893-1095 or RAAQ69A@prodigy.com

**June 1 & 2** Mid-America Electric Flies, Saline, MI, Relaxed Fun Flying, All Up/Last Down, special awards, Ken Myers, (810) 669-8124 CompuServe 102575,3410 or InterNet 102575.3410@compuserve.com (NOTE: event moved to June this year)

**June 8 & 9** LVRCS Electric Fly, Easton, PA CD Mike Stewart, 107 Taft Terrace, Washington, NJ 07882 (908) 689-6981

**June 15 through June 23**, 3rd Annual Electric Duration Challenge, any flat field in the US or its territories, Jerry Smartt, (816) 438-5682 (See rules March Ampeer)

**June 29**, 9th Annual NCRCC Electric Fun-Fly, Ron Torrito, (203) 528-2227 Hartford, CT area

**July 20-22** Electric Nationals, AMA Headquarters Site, contact Ken Myers

**June 29-30** Kingston Radio Control Modellers Electric Fun-Fly Martin Irvine - (613) 389-9457

**Sept. 20/22**, KRC Electric Fly-in, Quakertown, Pa. (please note I had wrong dates earlier - these are correct!)



The Ampeer  
Ken Myers  
1911 Bradshaw Ct.  
Walled Lake, MI 48390

**Ampeer On-line Print Problem?** from Ted Capron (*Some of you have noted a problem printing the Ampeer on HP deskjets. Maybe a tip from Ted will help. km*) After down loading this file I was able to print March out on my Hewlett Packard 560C by making the following modifications to the HP 560C Windows 95 driver: Bring up the HP 560C driver (under Windows 95), under properties, click on details- spool settings and check box to print direct to the printer. When printing the Adobe Reader, do not have page size change-checked!

**Next Meeting:**  
**Dublin Community Center**  
**Thursday, May 2 - 7:30**