



SANDERSON FIELD R.C. NEWS

Swap Meet April 15th



CHARTER NO. 3079

CLUB MEETING

*This months meeting will be held
on Thursday April 13th at 7:00
p.m.*

at PUD #3

At 3rd & Cota

Jody Diaz was out of town so the meeting was run by Dick Robb

Treasurer's report was read and accepted as read.

Minutes were read and accepted as read.

Tom Strom reported that the last pylon race went pretty well.

Dick Robb explained about the sudden death Scale contest. Normal fun scale rules but only one round and highest points for the one round will win. There will be no entry fee this year but if we have a full blown fun scale event in the future there will be.

Tom Strom reported that when he was at the field around the 25th of February there were some issues with radio interference. Tom said they saw someone flying

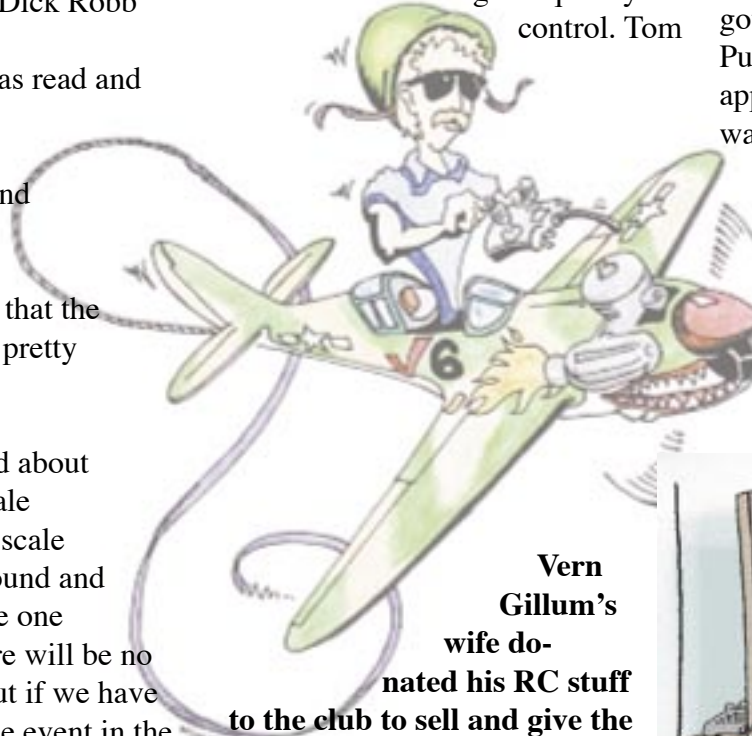
a Zagi type airplane over by the windcrafters hanger. They lost a plane because of it and almost lost another. Dick reminded everyone that channel's 11-15 are reserved for Windcrafters and that if they want to use any other frequencies they are supposed to fly in our area to better manage frequency control. Tom

wasn't sure what channel had the problem but it was in the 30's. Dick recommended that if we hear a plane over there to go over and "get in their face" and also document any radio problems you have.

Chuck Kentfield contacted the School district and Walmart and got the necessary approval for the Public display on June 10th. The application for additional insurance was sent in on March 8th.

Burt Dagget was awarded his solo certificate. Burt was trained by Joe Lewis.

Meeting adjourned at 7:40



Vern Gillum's wife donated his RC stuff to the club to sell and give the money to a college fund. It's being priced for sale at the swap meet but will also be at the meeting this month to give our club members first chance at it. If you are interested come to the meeting.



"I won't be coming into the office today. I'll be out in the field doing research."

Windy Weather Flying

by Clay Ramskill

All too often, on an otherwise nice but windy day, folks just don't fly. Obviously, for a beginner, that's common sense—but for someone who has some experience, the wind can be a challenge that adds some spice to flying.

While it's easy to see that experience level has a lot to do with how much wind is too much, it may not be quite as apparent that the type of model you're flying also can have a great effect on your ability to handle winds.

Let's go through some airplane design features to see which ones give us the best flying characteristics to handle winds and the resulting turbulence.

Size: In general, the larger the airplane, the better it will handle winds of all kinds; large models don't "flop around" as much!

Dihedral: The more dihedral in a model's wings, the more they are going to be affected by crosswind gusts; it is hard to keep the wings level, therefore lineup to the runway is difficult in a crosswind situation.

Wing Loading: The higher the wing loading, the less an airplane will be affected when hit with a gust.

Aspect Ratio: Lower aspect ratio (stubby) wings will be less bothered by gusts; there is less

leverage for side forces to upset the airplane, and lower aspect ratio wings have a greater tolerance to changes in angle of attack caused by gusts.

Power: Having the power to overcome the force of wind is necessary. The same thing goes when you get into a sticky situation.

Lateral Control: Ailerons are beneficial in a crosswind landing and takeoff phases. The ability to dip a wing into a crosswind without changing heading is essential, as is the ability to rudder the airplane parallel to the runway heading while keeping wings level with aileron while landing.

Landing Gear: Models with tricycle landing gear are easier to land and take off in a crosswind than tail draggers; in addition, the wider the spread on the main gear, the better.

Maneuverability: This one is a bit harder to quantify. You want a model with stability, yet you do need good maneuverability to cope with gusts. Therefore, you want a model that is stable, yet responsive.

Wing Mounting: Generally, a low-wing airplane will handle crosswinds better. This is because the center of gravity of the airplane is nearer, in a vertical sense, to the aerodynamic center of the wing. Therefore, a side gust does not roll the model as easily. Moreover, by mounting the main landing gear on

that low-wing model, they can be spread wider.

It's unfortunate that almost every item above is in direct opposition to the characteristics found in many popular trainers. The main exception is the requirement for tricycle landing gear. But even with trainers, there are differences. Compare a Seniorita with the Kadet Mk2. While the Seniorita may be a bit slower and a bit easier to fly, the Kadet, with its ailerons, higher wing loading, lower aspect ratio, and lower dihedral, is a far better airplane when flying in windy conditions. Going a step further with the same kit manufacturer, the Cougar (.40)/Cobra (.60 size) kits embody all the right characteristics for windy flying.

In closing, I offer Confucius' only known saying about RC flying: "To learn to fly in wind, one must fly in wind!"

From the Middle Point RC Flyers, Murfreesboro TN

CORRECTION:

For those of you who missed the last sentence in the "Flying with a Plan" story, sorry, it got chopped off. You didn't miss much though. Here is the rest...

economy forces me to always fly with a plan.

COMPOSITE MATERIALS: KEVLAR

by Art Gajewski

This article will provide some insight into aramids commonly known as Kevlar. As jet modelers, most of us are familiar with the popular fabrics used in the construction of our aircraft. Certainly, we have all built or flown models made of fiberglass and even some with carbon fiber and Kevlar. However, have you ever wondered how these materials are made and what are some of the tricks to use them properly? Introduced commercially in the 1970s, Kevlar aramid is an aromatic organic compound of carbon, hydrogen, oxygen, and nitrogen. Kevlar fiber is produced by spinning long-chain polyamide polymers using standard textile techniques. The low-density, high-tensile strength, low-cost fiber produces tough, impact-resistant structures. The compressive properties of Kevlar laminates are low (because of poor coupling of resin matrixes to the aramid fibers), so, applications are typically secondary structures or tension-critical applications. Kevlar fiber, originally developed to replace steel in radial tires, has found increasing use in the belts of radial car and truck tires, where it saves weight and increases strength and durability compared to steel belts. Two Common Kevlar Alloys Kevlar 29 is a low-density, high-strength aramid fiber designed for ballistic protection, slash-and-cut resistance, ropes, cables, and coated fabrics for inflatable and architectural fabrics. Kevlar 49 aramid fiber is

characterized by low-density and high-tensile strength and modulus. These properties are the key to its successful use as reinforcement for plastic composites in aircraft, aerospace, marine, automotive, other industrial applications, and in sports equipment. It is available in continuous-filament yarns, chopped fiber, woven and unidirectional fabrics, tissues or veils, and tapes for reinforcement applications. Kevlar 49 aramid is used in high-performance composite applications where lightweight, high strength and stiffness, vibration damping and resistance to damage, fatigue, and stress rupture are key properties. Reinforced composites can save up to 40% of the weight of glass-fiber composites at equivalent stiffness. The aramid composites resist shattering upon impact, and the presence of the fiber inhibits propagation of cracks. Depending upon the selection of resin systems, aramid composites have a useful temperature range from -320°

to 400° F (-196° to 204° C). Kevlar 49 is not a carbonized or graphitized material. Unlike other organic materials, its stress-strain behavior is linear to ultimate failure in tension at 340 kips/square inch (2344 MPa) and 1.8% elongation. Toughness of the fiber composites is significantly higher than carbon graphite composites. Furthermore, the very low density of the fibers provides a higher specific strength than glass or carbon reinforcing fibers. The specific modulus is between four and five times higher than that of glass fiber. The usable strength of Kevlar 49 reinforced epoxy is about four times that of 7075T6 aluminum at less than half the density. Kevlar—Getting the Most Out of Yours. Kevlar is lighter than fiberglass (for a given strength) and tougher than carbon fiber. Therefore, it sounds like the ideal composite, right? Well, yes and no. Let’s see how to best use this aramid material. First, cutting it can be a real pain. Special shears are required to cut Kevlar fabrics and tapes. These shears are designed to hold the fabric securely as the cutting blade

CLUB OFFICERS		
President	Jody Diaz	(360)427-6102
Vice President	Dick Robb	(360)427-4521
Treasurer	Charles Kentfield	(360)866-9473
Secretary	Bob Beatty	(360)426-5601
Field Marshall	Charles Kentfield	(360)866-9473
Safety Officer.....	John Tupper.....	(360)426-6383
BOARD MEMBERS		
Board Member.....	Jody Diaz.....	(360)427-6102
Board Member.....	Dick Robb	(360)427-4521
Board Member.....	Stacy Myers.....	(360)426-9367
Board Member.....	Bob Beatty	(360)426-5601
Board Member.....	Dave Southwick.....	(360)426-2869
Alt Board Member	Bob Mason	(360)426-9256
Alt Board Member	Chuck Kentfield	(360)866-9473

COMPOSITE MATERIALS: KEVLAR (CONT)

does its job. If you look at these shear blades closely, you'll notice that there are serrations on the "holding" edge and a sharp edge on the cutter. These shears are a specialty item and are therefore somewhat expensive, but they are well worth the price in reduced aggravation and improved results. Don't try to cut Kevlar without them. Second, use a compatible resin. Kevlar does not bond well with polyester resins. Keep it simple and use epoxy resins for the best results. Last, use Kevlar for specific applications including reinforcements as opposed to entire structures, predominantly tensile loads, vibration damping, or scuff resistance. Kevlar works well as reinforcement in fiberglass structures. Cost may become prohibitive when used as the only fabric in a composite structure and its compressive strength isn't as good as some other materials. I have seen Kevlar canoes, but I don't know how well they perform. Kevlar works really well as localized reinforcement in vibration-prone applications (e.g. engine-mount boxes in Giant Scale airplanes with gasoline engines). Scuff resistance is another good application—wing tips, fuselage bottoms, etc. Always use high-quality, engineered resin. Some hobby resins may not have all of the strength properties we desire in our applications. I personally use and recommend WEST Systems 105 resin with fast or slow hardener. WEST Systems is competitive on a cost-per-ounce basis. This resin dries hard, is easy to sand, it's tough and not easily damaged compared to some other

hobby resins intended for the same application. Once again, a quick word about hybrid fabrics (carbon fiber and Kevlar)—these hybrid fabrics are popular because not only do they look attractive but they also can provide the best of both worlds. They provide the lightweight, high strength, and stiffness of carbon fibers with the lightweight, toughness, and abrasion-resistance of aramids. I have built hybrid composite landing gear using alternating layers of carbon fiber and Kevlar with excellent results. One would need to understand the application very well to select the right composite properly (fiberglass, carbon fiber, aramid, or a hybrid). Hybrids have their place.

From the Jet Pilot's Organization

Note: Information in the article is adapted from Composite Materials Handbook, M.M. Schwartz, McGraw-Hill Book Company, 1984.

IF YOU HAVEN'T PAID YOUR DUES YET IT'S AFTER JANUARY 1ST NOW AND DUES ARE \$40.

IF YOU PAY BY MAIL SEND YOUR DUES, PROOF OF 2006 AMA MEMBERSHIP AND A SELF ADDRESSED STAMPED ENVELOPE TO THE TREASURER:

***CHUCK KENTFIELD
6843 Gallagher Cove Rd NW
Olympia WA 98502***

License Fee's for RC Modeling?

I found this in the Mt. Rainier newsletter this month. First I've heard of it. If I hear any more I'll let you know.

RC News has just learned that model aircraft licensing fees are close at hand. It has now surfaced that because of a last minute and poorly worded provision of the Department of Transportation (DOT) funding bill, the Federal Aviation Administration must collect an annual licensing fee for all man made devices which enter the continental airspace. For the purposes of this fee, airspace has been defined as any height above ground. The provision was to have been effective on January 1 of this year, but since the provision is so obscure, and since DOT has yet to write the implementing regulations, it is expected that the fee will not be charged until January 1, 2007. Preliminary information leaking from the DOT is that the fees for aircraft not capable of carrying a person will be based on weight. The figures being mentioned are \$10.00 per pound for vehicles weighing 10 pounds and over, and 45¢ per ounce for vehicles under 10 pounds. Unnamed sources in the administration are quick to point out that this is not a tax, but a fee to be used for the benefit of all airspace users.

RC News readers may rest assured that the investigative staff will leave no stone unturned in their efforts to ferret out the dastardly, unscrupulous, money grubbing person who managed to insert the referenced provision into the appropriations bill. Remember, you read it first in the April Fool's Day issue of the Pfeiffer Field RC News.

New field locator service (free)

Looking for a field in your area or traveling and looking for a field? Maybe Mapmuse can help. I received this via email, check it out if you are so inclined.

Hi,
I am writing to let RC airplane Clubs know that MapMuse.com has added a nationwide map of RC Airplane Clubs to its services. This is being done at the suggestion of a MapMuse visitor. We ask that you check to see if your club has been included, and if it is located properly. You can add descriptive information to your profile, as well as a photo, and a link to your website. There is an Add and Edit feature on the site (it is very easy to do- you can refer to

<http://find.mapmuse.com/re1/mmFAQ.htm#A4> for complete instructions). Through this kind of community effort, we hope to have the most comprehensive, and descriptive maps of RC airplane clubs across the US.

The direct link to the RC Airplane Clubs page follows:
http://find.mapmuse.com/re1/interest.php?brandID=RC_AIRPLANE_CLUBS

We were listed but the directions were to my house. Probably from AMA's contact list. I entered the GPS coordinates for the field and have since received a note from them about the problem. They're working on it. Could be useful if they get the problem fixed

Dick Robb sent me some photo's of some newly completed planes, I only have room for a couple this month but I'll use them all! Thanks Dick



Darryl Casad's Hughes H-1



Dick Robb's 4-26 biplane

BELOW ARE THE SCHEDULED EVENTS FOR 2006

Club Scheduled Events for 2006

- January 1st.....Annual 1st fly of the year
- January 15thPylon Race
- February 12th.....Pylon Race
- March 12thPylon Race
- April 15thSanderson Field RC flyers annual swap meet 9:00 to 12:00 SHS Sub
- May 27Fly-In 9:00am to ????
- June 3rd.....Forest Festival Parade Float
- June 10th.....Display at Walmart
- June 11thPublic Fly-In - 9:00 a.m. to ????
- July 15th.....fly-in with Novice fun fly - 9:00 a.m. to ?????
- August 12th & 13th.Pylon Race
- August 19th.....Scale fly-in with Novice fun scale - 9:00 a.m. to ????
- September 16th.....Fly-In - 9:00 a.m. to ????
- October 8th.....Pylon Race
- November 12th.....Pylon Race
- DecemberChristmas Party

It's time for 2006 dues, dues are \$40.00

Check out our web site at <http://sfrcf.quintex.com>