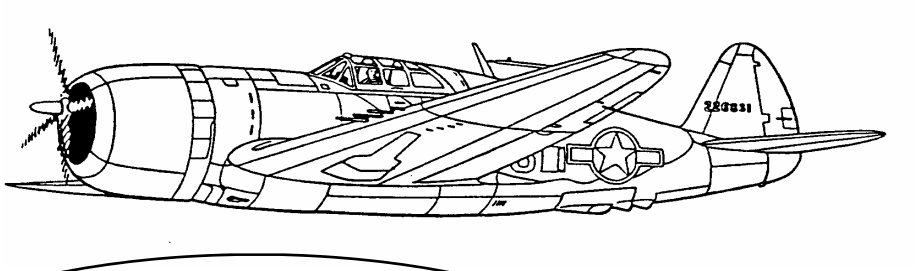
RIBCRACKER MODEL AIRPLANE CLUB

JUNE 2003

THUNDERBOLT

AMA CLUB 2067



JUNE CLUB MEETING

MONDAY – JUNE 2nd – 7:00 PM

LANG FLYING FIELD

10 Mile Road – West of Wixom Road

Short Meeting

Bring your plane – we'll have time to fly!

The President's Message – by Mike Hegyi

Last month's meeting was another good one. We had a good turn out. I would like to thank Jim Young for the information about Computer Aided Design. I would also like to thank Jim Newcombe for all the work he put into an information / introduction flyer to the Ribcrackers Model Airplane Club. This flyer will be used to promote the hobby & club at events & hobby shops.

Well, it's flying weather & the fields have been busy, both with flying and clean up. I want to thank our VP, Joel and all those who helped out to spruce up the fields. Let's get out there and enjoy the fields. There are many events going on that we can enjoy watching and flying at this summer. The officers are still pursuing any info you may have on a new flying field, and appreciate those who have past along some info that we are checking into.

The June Meeting will be at Lang Field (June 2, 7 pm) weather permitting. Fly safe and have fun.

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RIBCRACKER WEB PAGE: http://www.ribcrackers.org

Ribcracker May Meeting Minutes – May 5, 2003

The meeting started at 7:10 pm. April meeting minutes were approved as published in the May Thunderbolt.
V.P. Report – May 10th will be the clean-up date at both fields, beginning at 9:00 am at Lang Field.
Treasurer's Report – The club is solvent and detailed reports were handed out. Contact Roger Wilfong if you need details.
President's Comments – The Big Bird Fly-In will be held on May 26th at Lang. Contact Jim Gatewood if you can help. Student night has begun and it is Wednesday evenings. A letter will be sent this week to Geocities requesting removal of the old website. Dave Hurt is now working to update the "new" website and is hunting for information / pictures. **Hot Topics: 1.** Jim Newcombe has assembled a flyer to help promote the Ribcrackers as a club. Copies will be sent out to board members (and a few others) for review and feedback. **2.** Instructors are requested to be cautious when attempting to fly new members planes. It has been found that construction techniques used in some of the ARFs is questionable. Instructors always have the option of not flying a plane until they feel it is safe. **3.** Jim Gatewood, after monitoring the weather for the club, announced that the National Weather Service had issued Tornado warnings for the immediate area. Thanks for caring Jim!
Model of the Month: Presented and winner was Warren Wells with a beautiful white and green RV-4 ARF powered by an OS-61 4-stroke. Displayed to the delight of all was an electric Falcon by Roger Wilfong. This little plane folds up for easy transportation, has fabric wings and uses a GWS Pico Stick type motor. Very cute! Dennis Robbins brought an "in-the-bones" and in-process Great Planes Ultimate Bipe 40 powered by a GMS .61 2-stroke. Lots of work still needed on this one. Bringing up the final display was the Field Box Extraordinaire by Jim Newcombe. Everything needed (or not) by the RC flyer at the field in a compact "light" box. Very clever Jim.
Demonstration of the Month: Jim Young on Computer Aided Design and Model Airplanes. Jim's demo covered basic P.C. programs, drawing tools, beginning designs and options to make drawing more productive for all types of builders. Excellent demonstration that kept everyone listening and entertained. Thanks Jim.
Respectfully submitted – Dennis Robbins

Flying 3D by Chris Brewer

So there you are sitting down with your latest Model Aviation and on the cover is a great big Extra doing a prop hang. You head out to the field and there's 3 guys hovering in formation, "Come on!" you say, "buy a helicopter". Like it or not 3D flying is not only here but is one of the fastest growing segments in RC (second only to electrics!). This article should help to shed some light on flying 3D.

Depending on who you ask, 3D can be defined as: "flying your plane like it's a helicopter", or "flying your plane like you're mad at it". A more accurate description is: The maneuvering of an aircraft at or below its stall speed by vectoring the thrust column. Instead of flying "on the wing" you fly on the prop.

Before you hit the field you'll need the right equipment. First, you'll need an aerobatic model that is light and has a big engine. Gone are the days when you strapped a bigger motor on your heavy aircraft to make it aerobatic. Weight is the greatest impedance to successful 3D. The plane must have large control surfaces with excessively large throws since they will be working at a minimum airspeed; sealing your hinge gaps can help too. Your motor/plane combo must have a 1.5 to 1 thrust to weight ratio or greater (my Caps are about 2.5 to 1). There are hundreds of options but some popular examples at the field are the Hangar 9 Pizazz w/ Saito .72 or .61 2-stroke, Kyosho Flip 3D w/YS .63 or Saito .72, Morris Hobbies Su-Do-Khoi w/ O.S. .61 or MVVS .72 and the Hangar 9 Cap or Edge w/Moki 1.8. The second prerequisite is that the plane must be built perfectly straight! Since you will spend so much time transitioning in and out of the stall, any wing warp will show up as a snap roll or wing rock. If you don't own an incidence meter, borrow or buy one. True the wings and while you're at it, make sure that the elevator halves move together with the same amount of throw. The third and most important prerequisite is a strong running, reliable engine. Hovering 5 feet off the deck is not the time to learn that your mixture is too lean. Your motor must idle reliably and transition well to full throttle with no sags, lags or hiccups.

Now that you've got the right gear, how do you do those maneuvers? Without getting overly complicated here are some of the basics:

The **Harrier** is high angle of attack level flight. You see the plane flying at an impossibly slow speed with its nose up to 45-degrees high. Generally you need high rate elevator and sometimes spoilerons (ailerons raised up with up elevator and vice versa). In the Harrier you'll decrease throttle and increase elevator until the plane pitches upward without climbing. You'll have to juggle the throttle and elevator to prevent the plane from falling (elevator) or pitching above 45-degrees nose high (hover). Unless you're flying a fun-fly model you'll use more rudder than aileron to keep the wings level because it is in the center of the thrust column. Usually the plane will have a "sweet spot" where it will Harrier without excessive wing rock. By coordinating cross aileron and rudder inputs, you can "drive" the plane in a Harrier doing circuits of the field, figure 8's and flat turns inverted or upright. You can fly out of the Harrier by increasing throttle and decreasing elevator.

In an **Elevator**, you reduce throttle compared to the Harrier so that the plane descends while in a nose high attitude without forward movement. Start with a lot of altitude, chop the throttle, pull full up elevator and try to keep the wings level. Gradually increase the throttle (not more than ¼) until the tail drops and the plane stabilizes. Once you get the hang of keeping the wings level you can transition from Elevator to Harrier and back by increasing or decreasing the throttle. By combining the Harrier and the Elevator you can **Harrier-land** by performing an Elevator down to 5-10 ft. then gradually increase throttle resulting in a very short roll out on touchdown. The first successful Harrier-landing will seem odd as you touch down with almost ¼ throttle; the first unsuccessful one will tear the gear off. Jason Schulman's **Suicide Slide** is a knife edged elevator that transitions to a Harrier-landing, full "up"(right rudder), up elevator to keep it straight, aileron (right) to keep it on its side and throttle to keep the tail down….

The **Torque Roll** is the one that everyone wants to do. The plane hovers vertically while the torque of the engine rotates it clockwise. Bring the aircraft in low, pitch up gently as you increase throttle until the plane is hovering. Hold the airplane vertical by correcting with the elevator and rudder. This is a lot harder than it appears and you'll need a lot of practice but there are some tricks that will help. The biggest problem is learning the correct orientation of the model, especially when the belly is to you. I.e. "if the plane yaws left do I use left or right rudder?" The answer is left stick input, rudder appears to go right. I used the simulator over one winter and it made a huge difference; if you don't have a simulator, practice.

practice! Sometimes the model will just hover but won't "Torque". You may find that switching to another prop will help, reducing throttle for a second may also help to get the roll started. A frequent mistake is using too little throttle; the plane begins to slide backwards and then torque rolls very quickly, and of course it is then impossible to control and falls off to the side having done ¾'s of a TR. Get familiar with increasing throttle with rudder and elevator inputs, and as you let off of the correction, you'll reduce the throttle back to hover too. Think of a string tied to the spinner, pull the string and the plane pulls vertically, slacken the string and it falls off to a side. In the famous tail touch you allow the torque rolling aircraft to descend until the rudder touches the field!

A **Waterfall** is continuous flip around the wing; it'll look like it's doing front somersaults. +/- 45 degrees of elevator throw are a must along with a rearward center of gravity. Start at a safe altitude and bring the aircraft into a hover. Add full down elevator and full power at the same time, you may find that you need to reduce throttle as the nose comes back up to vertical, increasing it again at the bottom. The trick is keeping the plane in the vertical plane with ailerons and rudder (think of a tire falling over). Flaperons (down aileron with up elevator and vice versa) help tighten the waterfall. Most aircraft do waterfalls better inverted than upright because the rudder is more effective inverted (longer radius = greater distanced traveled…). An interesting variation is the Parkinson's Loop where the aircraft climbs vertically briefly before flopping over the top creating an oval shape.

The **Blender** is a diving roll that transitions into a flat-spin. Before I explain any more, please be sure that your wing is strong and that you begin this maneuver at idle because it can, has and may rip the wing off. From a very high altitude, chop the throttle and pitch over into a vertical dive, add left aileron initiating a left roll. After 2 or 3 rolls, quickly feed in full down elevator and right rudder while gradually increasing throttle. The plane should slow its decent and gently flat-spin down. There are a couple of recoveries; while flat, increase throttle with full down elevator bringing the plane into a hover/ torque roll or try reducing the elevator and or rudder and begin a "climbing" flat spin. ****Warning this is a violent and impressive maneuver, do not attempt unless you are confident that your wing will survive*** (the author has destroyed 1 plane and 1 covering job doing these).*

The **Wall**, "Bug Splat" or "Pop-up" is an abrupt 90-degree pitch up from level flight. From moderate-slow forward flight you reduce throttle. As the plane slows, pull full up elevator and give full throttle. The trick is to release elevator and back off the throttle as soon as the plane is vertical, there should be no change in altitude. Correctly done the plane will rotate around its wing to vertical and appear to have run into a "wall". To recover you can add throttle and Torque Roll or climb out vertically. Some variations are the **Parachute** where the wall is performed from a vertical dive (at idle, please!), then transitions into an elevator, or inverted by applying down elevator from inverted flight. One variation is the **Heart Attack**. On take off, keep the plane close to the ground. At the end of the runway execute, a pop-up to torque roll, land and pick up the bodies. One of the wickedest variations is to pull full up from inverted (yes that points the nose down!), hold full up elevator and gradually increase throttle until the plane rotates another 90-degrees to a nose high Harrier or Elevator, then Harrier-land! ****Warning this is a violent and impressive maneuver, do not attempt unless you are certain that your plane will survive*** (the author has bent his wing tube and 2 tail tubes doing these!).*

Now that you've got the goods, what do you do with it? You do not take your tank out and try doing tail touches in the middle of the field! Be considerate of the guys who aren't flying 3D yet, get your plane up and away from the general traffic pattern. For a while, you're going to burn a lot of fuel learning orientation and how to fly out of a tip stall, so you'll need the altitude. Pair up with someone who has a move worked out and trade tips or ask for advice. If you want clear airspace to try the tail touch, ask! A little courtesy will prevent a lot of meetings.

The way the story goes: A guy asked Frank Knoll (3D guru) to teach him to torque roll. Frank replied "Show up bright and early tomorrow with $100." The next morning "a guy" showed up ready to fly, with a hundred bucks in his pocket for the lesson. Frank arrived and said "Now go buy $100 worth of gasoline. When you've burned all of that gas practicing, you'll know how to torque roll."

Check out some of these sources for more information on 3D:

RCUniverse.com, 3Dbatix.com, RCFAQ.com, GSAL.org, Scaleaerobatics.com

Feel free to contact me at cbrewer74 @ comcast.net if you have any questions or comments.

The Squawk-box by Dennis Robbins

So…

#1) I'm going to assume (very dangerous) that most of the people that get into RC airplanes have some level of mechanical aptitude. They must; otherwise they wouldn't even attempt this hobby/sport. Heck, a plane has appendages sticking in every direction and moveable surfaces all over the place. There's an engine with adjustment screws and a spinning propeller. Even an uninformed, uneducated first look tells you that you're going to have to "tinker". It comes with the territory.

#2) I know that I'm not the only one who occasionally "dorks" in a plane. (The guys that are laughing the hardest, are the guys that "dork their planes" even more often than me). So now we're faced with the prospect of repairing a plane and returning it to an airworthy status. Now, I've been told that no matter how bad a crash, you gather up the many, many pieces, go purchase some fresh CyA and put the blasted plane back together. After the forth or fifth time you've done this, to the same plane, you're allowed to trash the airframe and start over. If you're lucky, you'll only have to patch the hole or remove lots of covering to inspect and repair whatever's now broken.

#3) Many of the RC flyers today are assembling ARFs (Almost Ready to Fly airplanes). They're not building from kits or plans or from scratch. Most (if not all) of the new flyers are using ARFs. I will continue to assume (incredibly dangerous) that with most ARFs, the purchaser only has to glue the major structures either together or onto a fuselage, mount the engine and radio gear and then apply the decals. Are the wheels already mounted and locked in place? Charge the batteries, tinker a few hours, make sure you admire your handy-work (very important step), then head for the field…ready to fly!

Now this is the part that I don't understand…….

#4) So now, you "dork" your ARF and you never had the opportunity to learn what goes on under the skin. What do you do? How do you know what to inspect for? How do you learn to peel back the skin and look for broken wood or cracked glue joints? How do you learn to re-apply the covering? What the heck is a C.G.? Who's going to inspect my work? Ahhh…does that matter? Wonder if the hobby store has another plane now that I have all the "guts & stuff"?

#5) So, this is what I can't comprehend. If you never learn to build, then how could you possibly understand what's involved with a repair? With an ARF there are no building plans (aka: blueprints) that provide insight to the internals. So what do you do? Do all these people "pitch" the broken birds and just replace them with something new? Are model airplane repairmen in the Yellow Pages? Are all the broken birds tossed into closet corners or somewhere remote in the garage or basement? Or do these people just quit the hobby?

#6) Will someone please write me and explain this aspect of RC airplane life…Mom can't help with this one…she's out of answers too!

More Murphy's Laws of RC Flying:

⇒ All RC radio equipment is made with smoke in it. If you let the smoke out it will not work again.
⇒ The one screw that vibrates loose is the one you do NOT have a spare of.
⇒ The time that the bottom of your flight box would fall out is when you are holding it directly over your plane.
⇒ The probability of destroying a new model is proportional to the time, the money and the efforts invested.
⇒ A good landing is a when the model is still similar to how it was before taking off. An excellent landing is when the model can take off again the same day.

Local Events –

5-31/6-1	Indoor RC Championships Sponsored by NIRAC	Oakland Yard Golf Dome M-59 – E. of Pontiac Airport	David Robelen 434-392-3451
6-2	Ribcrackers Club Meeting Monthly Club Meeting	Lang Field – Wixom 10 Mile Rd – W. of Wixom Rd	Mike Hegyi 248-669-7583
6-8	Fun Fly Sumpter Hilltoppers	Sumpter Hilltoppers Club Field Call for directions	Bob Murdock 313-980-8126
6-15	Big Bird Fly-In Big Birds over White Lake	White Lake Pontiac Area – call for directions	Frank Vella 248-627-8060
6-22	Ribcracker Fly-Fly Run-what-ya-brung	Lang Field – Wixom 10 Mile Rd – W. of Wixom Rd	Mike Hegyi 248-669-7583
6-28/29	Precision Aerobatics Signal Seekers	Signal Seekers Club Field Westland area	Robert Kane 734-281-8514

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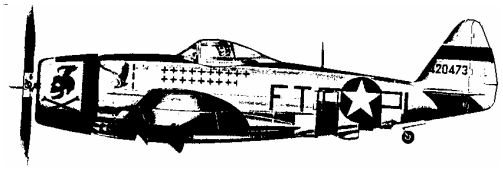

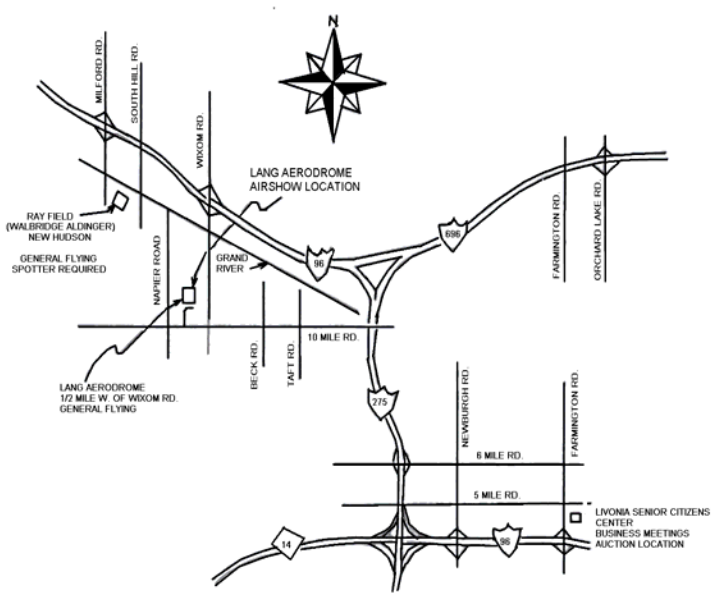

Attention All RIBCRACKERS

This has been written so many times it's getting very old! PLEASE – when you leave Lang, make sure the gate is closed and locked! Numerous reports of finding the gate open continue to come in. PLEASE – WE need your co-operation and help!

Help the Web-site:

Gentlemen – Dave Hurt is still looking for interesting photos of Ribcrackers and their planes in action to include in our web-site. He will reward everyone that makes an acceptable submittal. Please contact Dave at 248-624-7714 and tell him what you've got!