

# THE FIELDBOX

April 2004

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## **Intro**

## [Club Officers](#)

If you have any ideas, articles, or stories for the newsletter, please email me, or call me to get it submitted.

## [Safety Notes](#)

[grippm@bellsouth.net](mailto:grippm@bellsouth.net)

## [President's Corner](#)

Just a reminder that the club dues for 2004 were due on February 29, if you haven't paid, you are overdue, and have no rights at the flying field until you get current with your membership fees. Please see any officer to submit your payment along with an updated application.

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## **Club Officers**

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The elected officers for WTRC for 2004 are:

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President: Tim Treneff  
Vice-President: Jeff Layman  
Secretary: Mike Grippin  
Treasurer: Anthony Harden  
Safety Officer: Dave Huff  
Field Marshall: Rickey Gateley

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All is going great at the field! Everybody is doing wonderfully! The only things I think we need to work on is communication and consideration.

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Communication. Please be courteous to your fellow flyers when taxiing on to the runway and be sure everyone is solidly in the air before you become a roadblock. The planes already in the air have the right of way unless they choose to go around. Please announce your intentions to the other pilots so they will know what's happening and be able to cope with it. And when I say, "announce", be sure they hear you. It would also be a nice touch if the other pilots confirmed that they heard *you*. If we all use this new and innovative concept called "teamwork", life *will* go much smoother. Trust me.

## [Links](#)

Consideration. Please be considerate to your fellow flyers by not blocking the runway trying to get a stalled plane started, or adjusting your needles. If your plane dies while taxiing or needs that quick tune-up, please bring it up to the gates beside the pilots stations to deal with your problem. I'd hate to see someone get drilled by a dead stick plane over a needle setting!

That's all that I have to say and that means, we're doing good!!

Great job to all!

Dave

## **President's Corner**

This month we have a lot of items in progress or need to be in progress for the spring field preparation. Remember that May 22<sup>nd</sup> is the spring fly-in and we want to have the field especially nice for this event.

### ***Done Items:***

The yellow rope fence was completed on the west side of the parking lot. We had a great turnout and did the job in four hours thanks to Tim Morris and his tractor mounted auger. Pictures are on the website.

The Jacobsen fairway mower has had all 5 reels totally rebuilt and sharpened (pictures on the website scrapbook). We invested \$500.00 in parts and many hours of labor but it should last a long time if we don't run any debris through it. We need to be careful to not leave ANY objects on the ground that could dull the blades. Be sure to pick up broken props, rubber bands, cable ties etc.

### ***In progress:***

At the March meeting, the club approved \$1000.00 to build a 24x36 sun shelter. It will be a gable roof building with a chain link safety fence around it. Roger Bivins (project coordinator) came back with an estimate of at least \$1500.00.

The next Saturday we held an emergency meeting at the field and decided to ask for donations to subsidize the project. Approximately 15 or so members have donated nearly \$1000.00 toward the project. Any additional donations will be used to enhance the structure (ceiling fans, tables, etc. Anyone wishing to donate money please contact any club officer.

### ***General Notes:***

We have put the white stripe on the runway again. We will be putting the heli-pads close to the fence again. The purpose of the white stripe is to get the fixed wing aircraft traffic further out on the field to make it safer for the helicopter fliers

and other pilots. The white stripe is also parallel to the flight line. If you're having trouble lining up on the white line, you're also having trouble flying parallel to the flight line. If you're not taking off on the white line, we have trainer pilots that can assist you.

### ***Spring Fly-in:***

At the April meeting we will begin plans for the spring fly-in. It is May 22<sup>nd</sup> and there will be a \$10.00 landing fee for all pilots including club members. Considering how full the parking lot is on a normal Saturday or Sunday, we will need to be sure to have complete organization from parking to flight lines. If you are willing to work, let us know your interest and how long you can work. We will need volunteers all day Saturday the 22<sup>nd</sup> for the following positions. We will also need to take turns relieving each other so that all club members can fly in the event as well.

- Event Setup (Friday Afternoon)
  - Tim Treneff (Coordinator)
    - Need lots of volunteers
- Parking Control
  - Jerry Tate (Coordinator)
    - Need several volunteers 8:00-noon, a couple the rest of the day
- Pilot registrations
  - Tim Blankenship (Coordinator)
    - Need a backup all day
- Radio Impound
  - (need coordinator and several volunteers all day)
- Aircraft Inspectors
  - Bill Smith (Coordinator)
    - Need a backup all day
    - Need a helicopter expert also
- Flight line control / ready boxes / safety officer
  - David Huff (Coordinator)
    - Will need several backups all day
- Concessions coordination, Cooks, Servers, Cashier
  - Mike Grippin (Coordinator)
    - Need backup cook all day
    - Need helper all day
- After event teardown and clean-up
  - Hopefully a bunch of members will be around late afternoon.
- Publicity coordinator
  - Tim Treneff (coordinator)
    - Alex Treneff Photographer

### ***Take Offs and Landings***

One of the most important aspects of flying an RC model and the most overlooked is the take off and landing. Great take offs and landings add to the observer experience and bad ones make our toys look like toys. Best of all they are the aerobatic maneuvers that are mandatory to be practiced with every flight!

Those of you who ride roller coasters know that the coaster ride begins by rolling out of gate and then hooks up with a slow moving lift hill. The hill isn't slow because it can't go lacks horsepower. It's slow because it creates anticipation and adds to the effect of the ride.

### **Take offs**

Now think of the taxi out to the "white stripe" as going to the lift hill. If you taxi out with a slow but steady throttle (gee like a real airplane), those watching you fly start anticipating the take off. You line up on the white stripe and wait for tower clearance (check with other pilots) and then advance the throttle (not jam) smoothly and navigate the airplane down the white strip. You should be advancing down the white stripe on the ground until your wheels are in front of you and then you apply just enough up elevator to gradually lift off the ground with the wings level (novel idea – as if there were a real person inside). You should be flying straight down the center of the runway, gradually increasing altitude with your wings level.

Now you have created a minutes worth of excitement showing off true pilot skill rather than 10 seconds of "I can barely get this thing in the air".

Oh boy we're up the lift hill, what comes next?

### **Landings**

Landings are pretty simple as well. It only takes being lined up on the white stripe and a smooth decent. Most folks that have trouble landing are actually in trouble on the final traffic pattern to the approach. The landings get botched because the pilot is still trying to line up the airplane when he should only be concerned with the rate of decent. After landing, if your airplane rolls out and is aimed at the fence, you were not

lined up on the approach.

Remember the idea is to get lined up with the white stripe. This is really done on the down wind leg of the final approach. If you think of the traffic pattern as a rectangle with four 90 degree gradual turns it will all make sense.

When on the final down wind leg you should be flying parallel to the runway and make a 90 degree GRADUAL turn toward the flight line. Level the wings long enough so that when you exit the final 90 degree GRADUAL turn you have the sensation that the airplane is lined up on your shoulder. Level the wings and make a gradual descent using the correct flare to have your wheels touch in front of you on the white stripe. As your skill increases you can make the final two turns into one giant smooth turn if you like that style.

Taxi back to the safety fence with a smooth steady throttle (yes the engine will still be running)

You have now created another minute worth of excitement showing off true pilot skill rather than “at least I didn’t crash”!

That’s all for now.

**The Prez has left the building!**

### **Field Notes**

YAHOO.....I finally have the Jacobsen back, just in time for the growing season. The field has already been low cut once with the John Deere (what a 5 hour ride). As you come out to the field, you’ll notice the spots in the pits where the grass doesn’t seem to be very healthy. That is because we have had so much traffic on it this winter. I know a bunch of you will say “Oh, it will recover”, and it will, but it will take a FULL growing season for the grass in that spot to come back. We need your support that when you find a bare spot, don’t set your stuff up there, or the grass is never going to come back. At some point, once we get the entire parking area open again, I may rope off those bad spots to give em some rest. I will soon be aerating the field and putting down some general purpose fertilizer, probably next week, so the grounds will look torn for a week or two, but will recover nicely as the grass greens up in May.

While talking about grass cutting, let me throw something out

to you.....I don't deliberately wait until there's a bunch of folks at the field, then come out to cut the grass. Matter of fact, you'll mostly find me there at 6 a.m. doing the cutting. However, there are times, when my schedule won't allow me to do the cutting at an odd hour, and I have to be there cutting in the afternoons. When that happens, I need your cooperation, don't fuss and get mad and just leave. With the Jacobsen mower, it doesn't take but 45 minutes to cut the field. If you want to continue to fly after I'm done, why not give me a hand, pull out the John Deere mower and do the trim cutting around the rope line and around the new pavilion Roger is building. Or grab the weedeater and trim around posts and fences. Help by moving the field tables out of the way. You just don't realize how much the little things are appreciated. Then we're all done much quicker, and you can get back to flying, and I can get back to building. Just remember that the "PRIME" hours for flying are Saturday's and Sunday's, so I try not to schedule any major field work for those days, so Monday through Friday is my cutting time.

Also, it is soon time for the watering schedule to kick in. If you are one of those that fly during the week, get used to seeing hoses stretched out across the field, usually Monday through Wednesday. This doesn't mean you can't use the field. Just be courteous, if you turn the water off and move hoses so you can fly, please put them back, and turn the water back on. We have a great stand of grass there, just need to keep giving it the TLC to make it even better.

MY LAST RANT IS ***CIGARETTE BUTTS***. It is a well know fact that only stupid people smoke (me included), but let's not show just how anal we are by leaving the butts scattered all over the field. For the 637<sup>th</sup> time PICK EM UP when you leave. The reel mower does not cut the butts like a rotary mower does, and the field looks just plain ugly with all those nasty butts laying all over the place. There already has been talk of banning smoking totally at the field, or a designated area well away from the action. I am not for either one. If you go to other fields, at most of them you will find that smoking is not allowed in the pits or pilot area.

## **UPCOMING EVENTS**

Believe it or not, no one has contacted me with any new events. I know that Magic Valley is having their Spring Fly-In on April 24 starting at 9 a.m. We need try to make a good showing. Tim and Alex will be heading to a combat meet that weekend in Nashville, and the helicopter guys are going en masse down to a meet in Huntsville, AL, so the rest of us need to be at Magic Valley that day.

## **Chop Talk**

Hello again, hope everyone's well.

This month in Chop Talk I want to talk a little bit about heli setup.

This will be a two-month segment because if I put it all in one month it would be rather lengthy. I know after one good look at your heli your thinking (what in the world do I do, there are so many moving parts on this thing, I don't know where to begin). Well just set back and take a deep breath and relax. I will try to make this as painless as possible.

First thing you want to do is make sure you use the correct swash plate modulation. There are basically two types ccpm and standard mixing. Ccpm is where you will use all three servos which are pitch, elevator and aileron to raise the swash plate up and down, they all three will work in unison to accomplish this. The other is standard mixing which only uses the one pitch servo to move the swash plate up and down.

Once you find your correct swash setting, you will need to make sure that everything is moving in the right direction, to do this look at your swash plate. That's the round thing on the main shaft that has all the linkages hooked to it. With your left stick move it up like the throttle on your airplane. When you do this your swash plate should move up. Lower your stick and it should move down. If this is backwards you will need to reverse your pitch servo. It should be channel 6. Repeat this with your forward and aft cyclic or as some people call it your aileron and elevator. With your right stick in the up position your swash should tilt forward and down should tilt back. Move the stick to the right and the swash should tilt to the right and left will tilt to the left. If any of these are backwards just reverse the corresponding servo for proper operation.

After this is achieved you need to set all your ATV's

(which is your travel limit left to right of your servos) at 100%, you also need to center all your sub trims. You must have equal deflection left to right for proper operation. This action will insure you have equal deflection left and right. Once this is accomplished you will eye ball your swash plate and make sure it is level. It should not lean right to left or forward to back, you want it dead level. Do not bother with the pitch servo yet. Except for proper operation up and down. Next with the power on and the servos in the neutral or center position align your servo horns so it will be parallel with the other arm you are attaching to. Choose the right arm on the horn to accomplish this without any sub trim. Now then attach your linkages to the servo horns and your swash plate should be level without any trim at all. You should also note that you have equal movement left to right, forward to back. If you still are off a little don't sweat you can adjust the linkage rod to achieve dead center.

Last you will need to center the rudder movement on the tail shaft. You want equal movement left to right on the tail shaft like on the swash plate. Follow the steps above to center and attach your rudder servo. It is very important on a helicopter to do the steps above. If you do you will be rewarded with a great flying heli!

Well that has the aileron, elevator and rudder covered. Look in next months Chop Talk as I discuss Proper Setup of pitch and throttle. I hope this has been some kind of help for you and as always you can e-mail me at [ricgat@aol.com](mailto:ricgat@aol.com) for any questions or comments about my article.

HAVE A GREAT DAY!!!

Ricky Gateley

### **Building & Repair Tips**

OK, I know that lately I have been on my soapbox with this section, instead of just tips, but bear with me, I think these things are important for all to understand. This month I want to cover Batteries, their care and use. Again, I have overheard a lot of questions on this subject recently, and we have also lost 2 planes recently due to battery failure, so it's time to cover this topic.

The most common battery pack type that we use is the Nickel-Cadium pack (NiCad), so that's what I'm going to spend most of my time with. If you made no changes from what came "stock" in your system, you probably have a 600 mh receiver pack, and a 800 mh pack in your transmitter. These packs look like they contain AA size batteries, but since they are rechargeable, the nominal voltage of each cell is 1.2 volts. Sooo, in your receiver pack, you'd have a 4.8 volt pack, and in the transmitter you'd have a 9.6 volt pack. Before getting too far involved in the discussion, I need to stress that if you don't own an Expanded Scale Voltmeter (ESV), you need to go down to Discount Hobbies, or mail order, and get one in your flight box. These meters are available in the \$5 to \$15 range, and are one of the tools that you simply should not be without. You could use a regular voltmeter or multimeter, but if it is not the type that has a load applied across the leads, you need to build you a little set up that will, otherwise it will give you inaccurate readings. OK, now you have the meter, why is it important? Well, it's the only way you have to get an accurate reading of the condition of your batteries. I normally check my receiver pack during setting up my planes, before first flight, and I've gotten in the habit of checking them after each flight, or at least every other one. So, while on that topic, what is a safe or unsafe reading for your batteries? Most sources related to RC will tell you stop flying when the receiver pack drops to 4.6 volts or if the transmitter pack drops to 9.2 volts. I have tested several of my packs (on the ground) and found that they will still control the plane when the receiver is down as low as 4.2 volts, BUT, if I have any value attached to that plane at all, I will quite flying at 4.7 volts on the receiver and 9.4 on the transmitter.

OK, so now you have either a "new" pack, or a discharged pack from flying. Get that puppy home, and plug it into your wall wart charger that came with your radio, or into your other charger/discharger that you may have, and let that thing charge for a minimum of 16 hours. That gets your battery back up to a fully charged condition, and if you put your meter on it, you'll notice that the voltage actually reads in excess of 5 volts, usually 5.7 or 5.8, that's pretty standard for NiCads. After that 16 hours, remove the pack from your charger unless you have some type of trickle, or pulse charging system. Overcharging your NiCads WILL result in damage and decrease the life of your packs. A good pack should not lose more than 10% of it's capacity just sitting there not being used, even over the course of a couple of weeks. If it does, that's an indicator that

something is going wrong in that pack, and you need to keep your eye on it.

Next question I hear a lot is “How many flights can I get out of my receiver pack?” Well, that’s a pretty loaded question and there isn’t a straight forward answer. My answer is usually, buy a good meter and check after each flight, and when you get down to 4.7 volts, quit flying. Really though, the dependent factors are 1. The condition of the pack, 2. How many servos are you operating, 3. What type of flying your doing, i.e. constantly working the controls, you get the idea, flight time on a pack is something you have to track on your own and figure out.

Let’s talk about cycling your packs. All NiCads develop some type of memory based on your charging and usage habits. After awhile, this memory starts to eat into your flight time and how quickly the pack will discharge. The easiest fix for this problem is to “cycle” the pack, that means you would fully charge the pack, then discharge it to a nominal voltage (usually 1.0 volts per cell), then completely charging the pack back up. This brings me to the next tool that everyone should own, and that would be a good cycler. There are many on the market, with the low end ones going for around \$90, and the Cadillac versions selling for up to \$400. I won’t recommend any particular brand, but I would advise you to find one that has a digital readout of charge time, discharge time, and discharge mh. You could cycle your packs manually, but it takes time to do it. My recommended method for manual discharge is to sit in your easy chair some night watching TV, bring the plane and radio in with you, turn them on, and just sit there working the servos until your pack reads 4.0 volts. I know that some folks say to simply turn the receiver on at night before you go to bed and forget about it. There are several reasons to not do it that way. Since the only thing working under that condition is the receiver crystal oscillating, you are reducing the lifespan of your crystal, you won’t get the pack discharged to “nominal” voltage unless your constantly checking it, and most important in my mind is what if you forget to turn it off for several days. Leaving your switch ON for extended periods WILL CAUSE a condition known as “black wire disease”. The negative wire will become corroded and brittle and eventually cause a failure. I have seen this disease eat the negative wire all the way up into a power switch. It could also cause what is know as cell reversal, and ruin a pack.

So, back to cycling. For NiCads, most manufacturers recommend you cycle once every 3 months, some even say not to do it unless you detect that a pack is not performing the way it used to. Anyway, one reason why I recommend a cyclor with digital readouts is as it cycles, you should be writing a log for each of your packs. You need to track how long it took to discharge the pack, and what the peak voltage of the pack is. As time goes on, if the discharge time becomes less and less, or if the peak voltage is not as high as before, it's time to start thing about replacing that pack.

Next subject is "How long will my pack last?" This is another one of those hard to answer questions. I have a couple of packs that are over 15 years old, they still cycle fine (although the readings are down from when they were new), but those packs aren't in a flying airplane either. Technically, SANYO and GE provide figures that show a 4 cell pack has a mean time between failure of 5.7 years and an 8 cell pack is 4.8 years. That means that one cell out of every hundred WILL fail at that point. I am constantly checking my packs using an ESV and cyclor, and if I don't see a problem, I'll usually keep a pack until it reaches 4 years from when I purchased it, at that point I'll replace it. For you it should be what ever you feel comfortable with based on your survey of the pack.

One thing to remember about replacing batteries is that NiCads are not disposable, they must be recycled. Sorry, but that's the law. If you aren't aware of it, Radio Shack will take your used NiCads at no charge and dispose of them for you.

Most of the above applied to receiver packs. The only difference for transmitter packs is that all new radios do not allow you to discharge the battery from the external charge connector. To cycle a transmitter pack correctly you must open the case and remove the pack from the radio. If you are good at soldering, you can modify your radio so that you can discharge with the pack still in it, but by doing so, you void the warranty on your radio. See me at the field if you'd like instructions on how to do this.

One other type of battery pack that is available to us today is what's called a NiMah, or Nickle-Metal Hydride battery. They are more expensive, and weigh slightly more than NiCads, but the advantage to them is that their capacity is a lot greater than what a NiCad can carry. Basically that means that you can get more flight time out of the NiMah packs. Additionally, since NiMah packs aren't susceptible to the memory problems, they

don't have to be cycled as often.

I hope that this was at least a good starting point for most folks on the care of your batteries. There is just no reason to lose a plane due to battery pack failure as long as your careful with your packs. All of my stated facts for this column were obtained from Sanyo Battery website, GE rechargeable battery website, and a website known as rcbatteryclinic.

## **FOR SALE ITEMS**

Ryan STA-M with new O.S. 1.20 FP and Futaba 6X-A radio. It is ready to adjust the engine and go fly. It has been flown a couple of times by Jeff Layman and it flies great. 850.00 gets the whole outfit.

Stearman Bi-plane with .90 Thunder Tiger. Servo's in wings. No radio.  
250.00

Scratch built racer with .60 Thunder Tiger. Has flaps. Servo's in wings  
250.00

Raven with 1.08 Magnum. New engine. Plane needs a small amount of work for it to be ready to fly. 300.00

Joss Stick ARC NIB. 175.00

If anyone is intrested, call me at 664-2237, 697-7303, or e-mail at [anthony61@earthlink.net](mailto:anthony61@earthlink.net).

## **Donation lookout**

We're always on the lookout for anything good that can be used at the field. Hand tools would be nice, we have some, but could stand to have a few more things. A hammer, drill bits, etc. If you have something you'd like to donate, look in the shed to see what we are lacking.

## **Next Club Meeting**

Next meeting will be this Saturday, April 10<sup>th</sup>, at the field. In case of inclement weather, we'll try to have it in JEA's parking lot, but if really bad, it will be postponed.

## Links

Here are some links to some pretty helpful websites:

[West Tennessee R/C flyers rc planes remote control airplanes r/c r-c flying aircraft wtrcf](#) – our new and improved website, courtesy of Alex Treneff.

<http://rcbay.net/>

our very own combat site by Alex:

<http://webpages.charter.net/combatcrazy>

<http://rcgroups.com/>

[RCUniverse - The Ultimate RC Forum! - Buy, Sell, Trade and Discuss RC Airplanes, RC Helicopters, RC Cars, Boats, Engines, Radios, Park Flyers and more plus RC Classifieds](#)

[Radical RC](#) This is a great place to buy batteries, switches, harness and all kinds of goodies, go take a look.

[R/C Battery Clinic](#)

[Academy of Model Aeronautics](#)