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CHOPPER NEWS

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Northern Illinois Radio Control Helicopter Assoc.

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The World’s Largest R/C Helicopter Clubs

AMA CHARTER NO.2099

May, 2003

Next Club Meeting, 7:30 pm Tuesday, May 13th

At John’s Pizzeria in Addison

Editorial

Thanks to Al’s Hobby Shop and a lot of hard work by Rich moving bottles of fuel, our club fuel buy was another great success. Get all of the details in the president’s message.

I’m back! I just started repairing the tattered remains of my helicopter (from my legendary January 1st mishap caused by a micro burst). I think I broke every part on the helicopter, which must be some kind of record. I dusted off the cd for my simulator, and I am getting most of my thumbs to work together now.

How about a swap meet at one of our next meetings? It could even be at one of our field meetings this summer. Field meeting might work best because we would be by our car trunks and could swap stuff in the parking lot. I don’t know about you, but I have a ton of great parts and/or helicopters that I could bring. You, too, I’ll bet. Please help me to remember to bring this up at our next meeting. Try to imagine all of that used stuff in one location.

I am still a little confused about this new 50 V2 raptor. They just now made all of the changes they should have made 2 years ago and now charge us about a hundred bucks more for it. In my opinion this price increase looks more like a “what the market will bear” price increase, and they give us a couple of bucks worth of plastic, and we give them a hundred dollars. I might be a little bitter because I have a lot of my spare parts that don’t fit now!!! If they’re not careful, they run the chance of killing the golden goose.

The Al Fuchsen Memorial Helicopter Fun Fly will be here soon. Details are in the Event Calendar Section. You do not want to miss this event.

A lot of our members contributed a lot of interesting stuff to the newsletter this month. Thanks for all of the help, guys.

*****Meeting Notice*****

The next meeting will be held at John's Pizza...but not in the usual spot...it will be held in the dining room on the other side of the business. Members who have been around awhile know that one meeting a year we get booted from our usual spot...but for the folks with no memory and new members please note the change and please spread the word. Rich Erikson

President's Message

Ahhhh the warm weather is here...time to go fly and fly some more.... (What, honey...watch the kids?.... today?....but....but.....Oookkkkkaaayyyy) Well, at least I can get some time in on the Simulator...(what Drew....that's my 4 year old....what?...You want to play the "Thomas the Train" game on the computer..... now?...how about you play with some toys...no?...Mommy said you could play on the computer when I got home...No don't cry....Oookkkkkaaayyyy you can play on the computer). Well, time just is not on my side...any of you guys need some extra pants? I apparently don't wear them in my household!!! Geeze...I'm gonna put on my skirt and make some dinner for the kids...

In other news....there is a Jetcopter sitting on my dining room table awaiting some attention from me. Looks pretty cool... It is mostly Vario components and very limited instructions...VERY LIMITED. But I will prevail and I don't doubt that we can use it for our fun fly...unless the unthinkable happens and it finds mother earth....don't even think it....I won't be done with it before the next meeting but maybe the next one, and I will be certain to show it off for all to see...ok maybe Jeff Anderson could show it off...but possession is 9/10ths of the law, right?

Fuel Buy.

I thought I could have given you guys a little earlier delivery date but I was having difficulty rounding up the last stragglers who had signed up but not paid...I wanted to give everyone the benefit of the doubt and get all the orders in, that wanted fuel....anyway, the money is worked out, the fuel has been ordered and will be at the May meeting for pick up...if you ordered fuel please attend this meeting to claim your fuel... we have an awful lot of it...43 cases this month and 23 cases last month....so come and get em!!!! I would like to thank the guys who helped me get the first 23 cases (Joe, Steve, Mark) and I know that Joe had volunteered to help me again. I would not mind one more person with a truck or van to lend us a hand. If you can get to Al's the day of the meeting around 5 o'clock, let me know, and I will sign you up as a fuel

carrier...it is an official title that comes with great honor...not much else...just honor.

See ya at the meeting and remember to keep the stuff that spins out of the dirt.

Rich Erikson

VP MESSAGE

How to Know When Your Needle Valves Are Set Correctly:

I know this topic has come up before, but I think some of us could use a refresher (myself included). You see, I did my first ever backwards auto with my new Raptor 50 just the other day. Was it planned? – Heck No!!! You guessed it, the TT50 just up and died while in flight, and landing backwards was my only good option. Why did it die? Judging by the heat coming off the engine, it got too hot and had to stop! And of course, too hot usually means bad valve settings.

I told my wife that maybe the needle valve screwed itself in from vibration. And she didn't believe me, either! I wish this piece was the definitive article on exactly how to set the needle valves, but I'd call it more of a wake up call of sorts. Please bring your ideas to the next meeting and let's talk about it again. I'd hate to try it inverted.

How to Know When Your Servos Are About to Die:

Here's another topic I wonder if anyone wants to comment on. My comments are: I've always had some type of warning before a servo totally failed in the past, such as intermittent operation or a jittery spot somewhere in the servo's travel. This time, I saw no warning, I just sorta noticed that the throttle was wide open when I landed, and it wasn't going to stop with the kill switch! To make the story short, I have a new respect for the durability of an OS32, because while I just waited for it to run out of fuel, the OS32 had to run itself dry at full throttle with very little load. Can you say SCREAM? The engine still runs fine. The throttle servo is completely dead.

How to Know When Your Screws Are About to Lose Their Heads:

Now this is a tough one. I doubt there is an easy answer here. But wouldn't it be nice to know if the screws that hold your pride and joy together were about to crack up? Not long ago, when I picked up my Raptor 30 to take it home after a flying session, the tailboom support strut fell off! Well, just one end fell down, but it got my attention. The screw holding the strut to the plastic horizontal fin support had lost its head. The threaded portion of the screw was still in the plastic, and the strut was just sitting over it until I bumped it. Only luck kept it out of the blades.

How to Know When Your 1 Piece Muffler is About to Become a 2 Piece Muffler:

This didn't happen to me, but it's along the same line. A fellow club member had landed his Raptor 30 (with the nice single piece upgrade muffler installed) and was about to hit the kill switch for the day. Then the muffler just fell off. Except it wasn't the usual loose bolt problem. This muffler had had enough, and after 900 flights it decided to break in two. If you thought the boom strut could cause a little damage going through the blades, what do you think a muffler would do?

How to Know When Your Upgrade Aluminum Tail Rotor Yoke is About to Come Apart:

Finally a simple one. Let me explain. Flight #2 was completely normal with a safe landing. Upon trying to take off for flight #3, the heli yawed madly before it even left the ground. The bushing had come unscrewed from the tail rotor yoke, resulting in complete loss of tail rotor control. I had used blue loctite on this thread, but evidently not enough blue loctite. You've probably heard the old pilot saying: It's better to be lucky than good any day!

I'm looking forward to discussions on these or any other topics that may come up at the next meeting. Bring your ideas and concerns.

Beginning 3D: Inverted by Rich Erikson

PRIVATEObjectives:

- Begin basics of inverted flight. Master inverted hovering tail in/nose in/side on.
- Become confident in handling the helicopter in forward inverted flight.
- Safely control the helicopter through turns in forward inverted flight.

Flying inverted is a great party trick. Do some inverted flying in front of some spectators and they'll think you're the man. However, while inverted used to be 'the' maneuver, it has now become a fairly basic requirement in order to execute some of the harder 3D (and even F3C) maneuvers. Some would say you can do the more basic 3D maneuvers before learning inverted. However, I counter that by saying "what happens if you find yourself inverted in a critical situation?" There's a good chance it's not going to end well, so continuing to subscribe to the 'walk before you run' theory, we'll do inverted now.

When I first learned inverted flight, I must have spent a full week of nights on the simulator before I tried for real, and I would recommend this to everyone. You'll learn much faster on a sim.

Setup:

Your heli should be able to pull at least 9 degrees pitch both ways in Idle Up 2. Set your pitch curve for 0 degrees at mid stick. Ensure you don't have any binding at full pitch (both positive and negative) while adding in a little cyclic.

For the throttle curve, start off with something like 100, 70, 50, 70, 100. Remember, you're aiming to hover at points 2 and 4, so you don't want the engine screaming its nuts off there. I wouldn't recommend anymore than 70% throttle at either of these points. If your radio has some extra mixers (or if you've got a radio with a dedicated SWASHPLATE function that mixes in throttle with swashplate movements), then become familiar with the use of these functions. They'll become very useful when we get into more advanced aerobatics. I wouldn't recommend complicating things right now by setting them up, but become aware and familiar with their operation.

If you've got a heading hold gyro, it's a good idea to setup Idle Up 2 for heading hold. That way the tail can look after itself while you're trying to come to grips with the cyclic controls.

Orientation Tricks:

Learning inverted isn't easy and takes a bit of practice. Many people can hover inverted, but can they fly circuits? I found that inverted was easier than tail in at first. Not sure why, but it just was.

Aileron:

This is exactly the same as 'upright' flying. If the heli is inverted nose in, treat the aileron the same as upright nose in and vice versa.

Elevator:

This is one of the harder ones to learn. When the heli is inverted nose in, you 'push' the stick to push the heli away from you, and 'pull' the stick to pull it to you. Of course, this is reversed when tail in. This one here just takes time.

Rudder:

Rudder isn't easy to learn either. The trick I use now is to 'steer the bit closest to me'. For example, when the heli is nose in to me, and I want the nose of the heli to turn to MY right, I push the rudder right. If I want it to go to MY left, I push the rudder left. Same deal with tail in, if I want the tail to move to the right, I move the rudder to the right.

Pitch

I don't have any tricks for pitch! You've just got to remember that down is up and up is down!!!

Getting Started:

The best and safest way of entering your first inverted flight is by trying to hold the heli at the top of a loop. Enter the loop at a nice comfortable height in ID2, and as the heli reaches the inverted stage, release the elevator back to neutral and increase negative pitch to 'prop it up'. Hold it there for a few seconds until it starts to drift, or you become uncomfortable, then ease back on the elevator and continue on with the loop. The aim of these first attempts is to get the hang of the cyclic controls, what does what, etc.

Continue on with trying to hold it at the top of loops. Make small determined stick movements. If the heli starts moving towards you nose in, push the elevator stick forward a little, if it's moving sideways, correct it as you would if it were nose in. Check your inverted climbout ability by giving it a stab of negative pitch to try and gauge how quickly the heli climbs out. This will ensure that if you get in trouble, stabbing on the negative pitch to gain you some altitude is going to be effective. Once you can stop the helicopter drifting off by itself and can maintain a stable hover at altitude, start exploring the elevator cyclic controls. Gently pull back on the elevator to start the heli in slow forward flight towards you, move it along ten meters or so, then gently push on the elevator to bring the heli back into a hover. Then try the same with aileron. Of course, you will need to make the appropriate pitch changes as you would if you were doing this same exercise upright. At all times, if you feel it getting a bit 'uncomfortable', bailout, take a breath and try again.

When you can maintain a stable inverted hover and can move from one place to the next confidently, start getting the helicopter lower and lower, ensuring that you have a bailout plan in your head. For me, this plan is pushing forward on the elevator and down on the pitch so that the heli is climbing and flipping to upright if I 'get lost'.

Forward Flight:

Now that you can hover inverted in a controlled fashion, it's time to work on the forward flight aspect. Not surprisingly, it's much like when you take your first steps into upright forward flight. Take things slowly.

I recommend you get comfortable with hovering the heli inverted side on to you. It doesn't have to be at low level 'cause we'll not be going that low to start with. Initially, we're going to start flying inverted back and forth from side to side in front of us. The reason for this is we don't want to be flying at us in case of a 'brain fade' and the wrong stick is pulled and you have an upside down hedge trimmer racing at you, and

that is not what we want.

Just as you practiced the hovering, enter the inverted forward flight from the top of a slow loop. Do not get too much speed up, take everything slowly. As the heli comes over the top and inverted, slowly start applying some forward elevator and some negative pitch so that the heli continues straight on in forward flight. Not too much else the heli will stop and start flying backwards, and not too much negative pitch before forward elevator else the heli will pick up speed very quickly!

When I was doing this, I would let the heli 'glide' past me with as little input from me as possible, I would give little inputs so as not to 'upset' the heli. Let it continue past you until you are ready to stop. Do this by pushing forward on the elevator for a forward flip. This will gain you altitude instead of losing it. Get yourself sorted, and then do the same again, but going in the opposite direction. Continue doing this until you are comfortable controlling the helicopter in straight line forward inverted flight.

Turning:

When you can confidently control the heli in forward inverted flight, it's time to start adding some turns into the mix. The issues here are timing the rudder with the aileron and elevator. The aileron works exactly the same as it does right side up. However, when you enter a left hand turn, you're adding some left aileron, some right rudder and a little forward elevator to bring the nose around. The aileron and rudder work on the 'together/apart' rule, where if aileron moves toward the center of the radio, so too does the rudder. If the aileron moves to the outside of the transmitter, so too does the rudder. This rule holds true for both Mode One and Mode Two radios.

Enter inverted forward flight in the same way as you did above, and as the heli glides past you from left to right, start executing a left hand turn by adding a little left aileron and a little right rudder, as the heli begins to turn, add in a little forward elevator to stop the heli from diving. Continue to hold this in as the heli turns, again making small movements. As the heli completes the turn and begins to head back down the track from which it came, let it continue for a while, then either forward flip, or aileron roll out to upright. Complete this maneuver again and again until you are comfortable with making banking turns. Make both left and right hand turns as well as nose in and tail in turns.

Points:

Always have a bailout plan. Most of the time, I do forward flips as they gain altitude (unless flying backward inverted). Be smooth on the sticks! Sudden movements can accelerate bad situations! Make sure that you have a good inverted climbout. Adjust your pitch curve until you get one. I've flipped a heli over and hovered inverted quite low to the ground and gone to climb out and found the heli climbs at a snail's pace. Not good if you have to bail quickly!

Bringing it all together:

Once you've sorted out the 'turning' business, it'll pretty much all come together and you'll get to a stage where it doesn't matter if the helicopter is right side up, or upside down. It's when you've achieved this

that you're ready to get into some of the more demanding 3D maneuvers.

New Idea From an Old Flyer

New toy for our hobby, I am just starting to get back into flying again. I had started up my helicopter to check it all out, and I had purchased a new automotive tool that I could use to check the pressure system in the tank by pulling a vacuum. This tool came with many attachments for different diameter hoses. The company, Mityvac, makes the tool that I purchased. It pulls a vacuum by manually pumping a movable handle, is squeezed as in clenching your fist until desired vacuum is indicated on an easy to read gauge. I pulled about 5in. hg. in pressure and the pressure stayed steady at 5in.hg. A vacuum is read in commonly inches in mercury ("Hg). Hg is a negative pressure reading. To check the pressure system on the tank I pinched off the line that goes to the carburetor then I pulled the line from muffler I plunged the pump to this line and pulled the 5 in. Hg of pressure. Greg Reed

Editor: It's official. Greg Reed is back! With that much time off and stored up energy he should be able to give us a hand at our fun fly. Greg, it is good to see you back.

The Hummingbirds are on the Way

Use this web page to follow their travels north. A good rule of thumb is to put your hummingbird feeder up by May 1st. They usually get here between May 1st and the 15th. A mix ratio of three parts water to one part sugar will work great. Mix a large batch and keep it in your refrigerator so it stays fresh. Put out only what they will use up in three days to keep it fresh, and the little guys will stay well and happy. Don't let them down. They just traveled 2000 miles. Their chirp means thanks.

<http://www.learner.org/jnorth/spring2003/species/humm/index.html>

Event Calendar

On June 21st to June 22nd in St. Charles, we will be able to enjoy once again the Al Fuchsen Memorial Helicopter Fun Fly. Sponsored by Al's Hobby Shop, phone 630-932-0629, Email: rc@alshobbyshop.com Join in for one of the Midwest's largest helicopter fun flies, including fun fly events, autorotation contest, drag racing, and night flying. Area supports RV parking but no hook ups. Saturday night Pig Roast is included in entry fee and is a real taste treat. It is all great fun and should not be missed. See you there!

On July 11th to the 13th, the 10th Annual Chicagoland Festival of Giants, in St. Charles at the same field as the Al Fuchsen Fun Fly in June, phone 630-357-7350. At the show you will see literally 100 of the best giant scale airplanes from around the country. If you see it once you will go back every year.

For Sale or Wanted, Lots of Good Stuff

For Sale: X-Cell 60 SE graphite Pro, servos: 4-JR-4131- 1-fut-9253, Ext RC 1800MAh battery, Gyro: 1-fut-GY501, Receiver: 1-JR-10Ch S-PCM, Engine: YS 61 ST2 2-custom painted X-cell canopy and fin sets plus lots more. Too much to list. Paid over \$4000.00 asking \$1800.00 O.B.O, contact Shannon @ (708) 534-8512 or (708) 769-5803

For Sale: OS 32, including 49 dollar metal fan and clutch, all for 90 bucks obo, 630-377-1865, Choppernews2@juno.com, Marty

***Sold**An 8 channel Futaba PCM transmitter, FP-T8UAP, on frequency 45, \$175 new, first 80 bucks takes it. Such a deal, 630-377-1865, Choppernews2@juno.com, Marty

***Sold**Wife says, "It has to go!!" Fiberglass fuselage including wing plans for a P40 War Hawk, 1/5 scale, by Nick Zirolu. I have a finished model for you to look at. This P40 has a 94-inch wingspan, will weigh about 28 lbs, needs 4 hp to 8 hp chainsaw engine, 6-inch wheels, and 24-inch prop. It would make a great winter project. 100 bucks obo, 630-377-1865, Choppernews2@juno.com, Marty

**Put your ad here today!! If you set a fair price it will sell.*

Addresses and Phone Numbers of Local Hobby Shops

Al's Hobby Shop, Inc. 121 Addison Elmhurst, IL (630) 832-4908

G & D Hobbies 1950 W. Church Street Sandwich, IL (815) 786-8553

Hobbytown USA

3627 E. Main

St. Charles, IL (630) 587-1256

Venture Hobbies

23 Huntington

Wheeling, IL (847) 537-8669

NORTHERN ILLINOIS RC HELICOPTER ASSOC.

AMA CHARTER NO. 2099

We are actively looking for new members to join our Radio Control Helicopter Club. All that is required is an interest in R/C helicopters, field permit, and a \$20 membership fee. Please feel free to join us at one of our meetings to become a member or just for a visit. We hope to see you at the next meeting. Our Club web page is: www.nircha.com and is maintained by Web Guys, Rich Erikson and Kevin Cashman.

Meetings are held the 2nd Tuesday of every month, at 7:30pm, at John's Pizzeria, 100 E. Lake St., Addison, IL (1/2 block East of the intersection of Addison Rd and Lake St.). During the summer, the monthly meetings are held at the flying field, June, July, and August.

Our Helicopter Forest Preserve Flying field is located on Grace St., in Addison (on the border with Lombard), and about one mile north of North Ave. Field permits can be obtained by calling 630-933-7200.

Club Officers

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