

Tail Spin

By: David DeWitt, President

The 2006 Helicopter Spectacular took place on November 11 & 12 was a success thanks to great weather, skilled pilots and several hard working club members. There were 54 registered pilots that attended the meet this year and put on a fantastic show. You had to be there to believe some of those 3D maneuvers they performed. The event went smoothly with Gary Snyder, Arnold Schmidt and Robert Stenger running transmitter impound, Allen Sale doing pilot registration. Food concession was headed up by Joe Devine with Rick Ruede, Jeffrey Alspaugh and Tom Connor lending a hand. Doug Bruns was the co-CD and helped oversee the scale helicopters flying at the west end of the field. Thanks to all of you for the hard work that made the event successful.

Our last event of the year is our IMAA giant scale fly-in on Saturday December 2 and Sunday, December 3, 2006. We need a few volunteers to help run transmitter impound, registration and food concessions - please give me a call. I would like to see all club members with IMAA legal airplanes (bi-planes with 60" and mono planes with 80" or larger wing spans or true 1/4 scale) come on out and fly with us.

See you at the flying field.

New Members

Proposed at the November Meeting

Earl Studstill

Please Keep Us Updated

One very important thing that all members need to do is to notify either Rick Ruede or John Burdin if you have a change in your Email address or other contact information. Some members do this which is greatly appreciated, but some don't. The only way we can be sure you are getting club info is to have the proper contact information.

If you do make a change please contact us as soon as possible so we may update our records. Rick and John's contact info is located on page two of the Newsletter.

Contributions to the IRCC newsletter by club members are always welcome. Hobby related are best, and both humorous and general information about R/C may be used. Please forward your material to the newsletter editor via Email so we can use our member's ideas.

All contributions for the Newsletter should be submitted no later than the 15th of the month.

Here is another multipart article for our members. This information was sent to me by Dave DeWitt. This is a Q & A format about electrics, charging, etc. We are not sure who the author is, but we certainly thank him.

Here's the answers to our most frequently asked questions regarding care, feeding, technology types and system applications*

Q: How do I know if my pack is fully charged?

Temperature is the key.. always, always, always! IF THE PACK AIN'T WARM AT THE END OF THE CHARGE ROUTINE, IT AIN'T CHARGED! Note I said 'warm'. Not HOT! **Hot is NEVER GOOD** at the end of the charge routine.. but warm is OK. If using a temp probe, set it for 10 degrees above AMBIENT. If it's a peak controlled charger and the charger shuts down before the pack is slightly warm to the touch.. IT AIN'T FULLY CHARGED. If it's a timer controlled charger and at the end of the charge period the pack is not warm.. it's NOT fully charged yet! **By far and away the biggest reason for low capacity numbers is undercharging.. if you have a 5 gallon pail with only 3 gallons in it, your only gonna get 3 gallons out of it.** Engage *your* brain.. check temperature at the end of the charge routine!

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*Courtesy and
common sense
makes R/C modeling
fun for everyone.*

Temperature?? I thought voltage was how you could tell the pack was charged??

More packs have been fried by guys looking for a 'number' instead of temperature on a charger than any other cause of premature battery failure. The 'finish' voltage of a pack will vary under an astounding number of variables.. but temperature rise ALWAYS signals that the cells are charged in a slow charge routine. Why? Because when the cells can no longer absorb the energy being shoved at them by the charger, they begin to give the unsorted energy off as heat.

Taking the Temperature story to the next level.. fast charging. Here we can generate even more heat. Some high-impedance cells like AA NiMH's can get warm when being charged at 'normal' 1C (fast) or even 10% (slow) rates. They can get warm BEFORE they get to full charge. Why? Because high-impedance cells don't absorb energy as efficiently at high current levels.. just like they don't give up energy efficiently at higher discharge rates. So.. before you crank up the current on your charger on your new NiMH Tx pack.. check the pack label on our packs.. and set the charge rate recommended; which is often LESS than the 'industry standard' for NiMH cells.

Final word on temperature: Aside from being a key indicator for correct charge time, rate and final charge condition bear in mind that heat is the bitter enemy of NiMH Cells. Drive the pack into thermal overload (hot) on the charger and it's likely you'll ruin it. Pay attention to the temperature!

Q: How long should I wait between charging and discharging for capacity checks?

A: I actually had a guy that sounded like he knew what he was doing run me through hoops for days regarding low cycle numbers on his new packs. Finally he dropped the little missive, "I've been waiting 24 hours after the charge to start the cycle...."

ARRRGH! Where do folks come up with this stuff? Here's the deal.. ALL battery technologies have a self-discharge characteristic. NiMH self discharges at a higher rate than Nicad. Lithium has the lowest self-discharge rate.... but the point is, waiting a day (or an hour) to start a discharge after a charge will trend the capacity return downwards. Nominally, depending on cell type, age, impedance and temperature; a 10-

15% capacity drop over 24 hours is not unusual. So.. whatever goofy procedure you use.. do it the same way each time, because if you change ANY parameter in a cycle test procedure you will effect a result in the returned capacity number. Time span between charge termination and discharge start impacts test results. Long leads impacts test results. Cycling through switch harnesses impacts test results. Cycle testing in cold or hot conditions impacts test results. Here, we cycle immediately after the charge completes. If your cycle a day later, your numbers won't even be close to mine.. or the cell MFG's. Same goes for long leads, cold days, running your cyclers through system switches.. ENGAGE THE BRAIN... YOURS, NOT THE CHARGER / CYCLERS!

Q: Is 'self discharge' an issue, if I charge on Friday but don't make it to the field till Sunday do I have a problem?

Nope. Think about it for a minute. Do you fly without first checking your pack at the field with a load tester? If you do, THAT'S a problem. (scroll down for ESV info) I'd hope that anybody smart enough to buy good packs was also smart enough to have good field habits and would ALWAYS check the pack with a loaded ESV appropriate for the kind of pack and plane he's flying... before each and every flight; including the first one. We ALL stop flying when the loaded voltage displayed is lower than 1.2v per cell. AND, we all know the pack is 'officially' discharged as far as a capacity test is concerned at a much lower voltage than that (usually .8v per cell). That means we're never actually flying out the full capacity of the pack.. we stop and recharge or go home BEFORE we get to a dangerously low voltage level. So, using *your* brain this time; the answer is?

Q: I've had a couple of packs fail after just a few seasons. How long do packs usually last?

A: Cell type and technology, dimensioning, duty application stresses, charge rates, charger types and calendar age all impact directly pack performance and lifespan. As a rule of thumb, 2-3 seasons of normal use can be

The IRCC monthly club meeting will be held at FTE near the Lakeland Airport. The next meeting will be on Thursday December 7th and starts promptly at 7:30pm. Bring a chair - if you want to have a seat.

reasonably expected in most R/C applications, but bear in mind that some high capacity systems can fare worse than others under fast charge and high current demands. We recommend you check your packs with a cyclor once or twice per season to keep tabs on it's relative health and the use of an ESV every flight to avoid any unwanted battery surprises. For longest service life, use a slow charge routine for normal recharging.. charge till the pack is warm, no more. Use the peak charger only when necessary at the field to extend flying times. Don't peak charge NiMH Tx packs before the voltage display on the Tx drops below 9.6v.. constant 'peaking' of NiMH Tx packs ruins them pretty quickly.

Q: What's an 'ESV' and why do I need one??

A: An 'Expanded Scale Voltmeter' as it relates to the hobby is a test device that combines a voltmeter with a load. When activated, it applies a pre-determined fixed load to the pack and displays what the voltage of the pack is while that load is applied. A meter without a load is just a voltmeter, and unloaded voltage is NOT the info needed to make a 'fly' or 'don't fly' decision. We recommend the load be at least **250ma for 10 seconds** on any Nicad or NiMH pack used in .60 sized and smaller aircraft and a **500ma load applied for 10 seconds for larger aircraft**. We recommend a safe **minimum** 'flyable' voltage **while the load is applied** to be no less than 1.2v per cell, or **4.81v for a 4 cell pack** and **6.01v for a 5 cell pack**.

Q: Ok, seems easy enough, but how often should I check my pack with an ESV??

A: Prior to every flight, including the first one. Most standard switches provided by the radio mfg's do have a 'charge lead' plug and wire, but unless you add a 'charge port' for that lead in an accessible place on the outside of the plane you'll likely not want to pull the plane apart to get at the plug. Either upgrade to a charge port inclusive HD switch or add a \$3.00 'charge port receptacle' to your OEM switch's charge lead to gain immediate access to the pack. Get in the habit of checking the pack before every flight. If you do, you'll likely never lose a plane to an under performing or weak pack.

Minutes from November 2nd , 2006 Club Meeting
Allen Sale, Secretary

The Imperial Radio Control Club held its November regular meeting at FTE November 11th, 2006

President David DeWitt called the meeting to order at 7:30 pm

The minutes of the October meeting were approved as mailed and e-mailed.

Rick Ruede gave the Treasurers report which was approved as presented.

Rick also reported that the pylon event netted \$738.58, and that SEMPRA would like the club to host an event in February.

Rick then reported that we presently have 87 members and a new application for Earl Studstill.

Under Field Maintenance it was reported that one bench needs repair and some work in the area of ant suppression needs to be done. Also reported was that the fire extinguishers have been replaced.

Dale Anderson reported that he has replaced the Q.R. Powder in the first aid kit.

Doug Bruns reported that we now have many Helicopter pilots being trained as well as the usual number of airplane pilots.

Future Events- Heli Event November 9th-12th
Volunteers needed, contact David. IMAC Event
December 2nd-3rd Not much manpower needed.

Old Business- Election of officers. Motion made to keep all officers and directors the same as last year with exception of Chris Smith replacing Arnold Schmidt who is rotating off the board. Motion seconded and approved.

Facility- Motion made to spend as much as \$3,000 to erect a shelter for Helicopter pilots at West end of parking lot. Motion seconded and passed. Motion made seconded and passed to purchase Ian Clarks trailer for \$200.

New Business- Motion made seconded and passed to encourage Rick to secure pylon event n February.

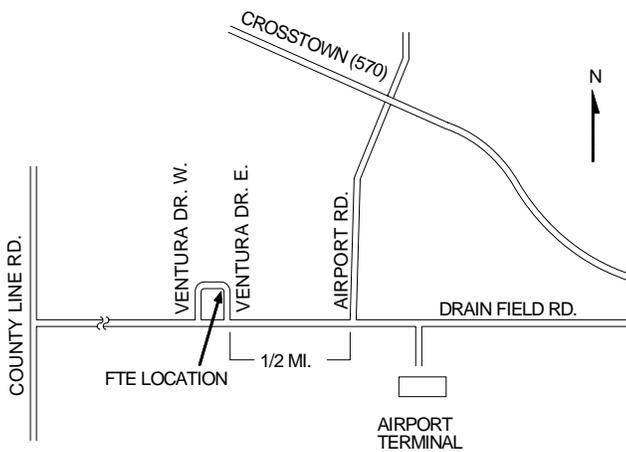
The sportsmanship award went to Doug Bruns for his work and patience with helicopter pilots.

The plane of the month was brought by Tom and Evan Connor. A quarter scale Extra 330, powered by an O.S. 160 FX. Tom explained a lot about the plane including a demonstration of the high (EVAN) rates and the low (TOM) rates.

There being no further business, the meeting was adjourned at 8:35 pm

It never hurts to bend over and pick up a piece of trash laying on the ground, empty the trash cans when they are full or take care of other small task when you are at the field.

"It's our house"



There is a vacant lot across the street from FTE which is a good place to park. There is another Facility to the west of FTE which has parking. Please **DO NOT PARK ON THE GRASS** at FTE or his neighbors.

December Meeting Agenda

IRCC "HELI Spectacular"
Wrap-Up
IRCC Winter IMAA
Wrap-Up

Planning for 2007
What would you like see
next year??

Put in your three cents worth

Who's Building What??
Bring your latest creation, and
show the other members what
you are doing.

*If you have a topic for discussion
let Dave DeWitt know so he can
put it on the agenda*

Coming Area Events

IRCC / IMAA Winter Rally
December 2nd – 3rd
David DeWitt, CD
863-838-4459
benz425@aol.com
www.imperialrcclub.com

2007 Events

Florida Jets
Lakeland Airport
February 28th – March 4th
www.FrankTiano.com

Sun'N Fun
Lakeland Airport
April 17th – 23rd
www.sun-n-fun.org

Top Gun
Lakeland Airport
May 2nd – 6th
www.FrankTiano.com

OUR NEXT MEETING IS: December 7th
Check out the directions to our meeting place.

We have a flame out on #1 Sir

