



## PRESIDENT'S PROP-WASH



Larry Lewis

### We're Three for Three!!!

That's right folks. RDRC finished out the year 3 for 3 on outstanding fly ins! We held our 3<sup>rd</sup> and final fly in, the "Big Jim Memorial" on November 13 2010. We had over 30 pilots, plenty of spectators, and amazing weather to accommodate our flying needs. Josh Bunn FINALLY got a break! Typically we have somewhat lousy weather at this event. It's cold, wet, windy, or all three! Not this year. The temps were in the upper 60s, and we had a light breeze right down the runway. I heard several people mention Big Jim himself must have had his hands on this event. I know he had a big smile on his face as he looked down on us. We miss ya buddy.....

We've had some mighty nice weather in the days since, and activity at our field has been really busy! This past Sunday looked like another fly in, and the skies were full all day with everything from Foamies to big model rockets. Mike Hollowell recently acquired one of his upper class qualifications for large model rocketry, and he's been treating all of us to some really cool stuff. He's also nailing down those recovery landings as well. It's pretty impressive to see a model rocket go 1500 ft up, and then land within a couple hundred feet of the launch pad. Keep up the good work Mike. As I was saying, there was a ton of flying going on this past Sunday. Jacqui broke out her Gee Bee and logged several flights with it. Id say she did some of her best flying yet, with only one aborted landing. The rest were greasers! It sure is cool having a wife who's addicted to RC!

We've had several folks join RDRC in recent weeks, and we voted in 3 new members this past meeting. I believe we're around the 150+ member mark now! It just goes to show RDRC is a power house club having tons of fun. We're really lucky to be part of such a great organization. There's always so much going on, and we're always looking to start something new. Who knows what will be next??? !!!

Now that cooler weather has fallen upon us, several folks have begun that winter project they've been thinking about, or they're putting those daily flyers on the table to get some maintenance work done on them. As it turns out, I'm doing both. Fortunately I don't have a lot of repairs to do, so I can focus on new projects instead. I'm hoping to build a float plane and a new racer this winter. I've wanted to do a little float flying for a long time, and figured Id get off my butt and get that done now. I have a new Sig Senior sitting on the shelf waiting to be put together, and a great set of foam float cores that fit the bill perfectly. Couple that airframe with a Saito 100 and I'll have a winning set up. Now to find someone who owns a chase boat! ;) I'm also hoping to build a new race plane this winter. We had a blast racing some 424s this past season, and I'd really like to hit that scene again with some better (faster) equipment. My plans are to stay with the 424 class while Robert plans to move up to the big boy's class. Both classes will be a blast.

I've been in the shop for several evenings now doing something I haven't done in years. Rebuilding model airplane motors! All of this is Jim Page's fault! Jim asked me to rebuild a Saito 120 for him several months ago. Well....after sitting on my table for 6 months, I finally broke out the anti freeze filled Crock Pot and started cooking! It was great bringing that big ole motor back to life and it really got me in the mood to do more. Soooooo.....As of tonight, I have several more rebuilt engines sitting on my work table, and I'm ordering bearings for 5 more! Basically, I went through all of my drawers and gathered every glow motor I had and went through them. I rebuilt about 12 engines in 3 nights!!!! Most of these just needed a good



cleaning and be properly preserved until needed later. I was pretty surprised how many glow motors I still have; among the many I dug out were 3 OS46s, 2 OS40FPs, an OS 40LA, 2 OS32s, a Saito 50 Golden Knight and many more. Hmmmmmmmm.....I can see a few of these rascals headed to the BARKS swap meet!

One more bit of info before I go. It's **Christmas Party Time** Folks! That's right. It's that time of year again, and we have a date set. December 8<sup>th</sup>, 7PM at Fargo's. This is the same place we've held the last two dinners. It's located in Zebulon NC, and the food/service is great. As are the prices!!! J Josh Bunn has everything set up and reserved. He just needs all members planning to attend to RSVP to him at [josh@qualityplusautomotive.com](mailto:josh@qualityplusautomotive.com). Please do this as soon as possible, and include the number of seats you will need. This event has been a lot of fun in years past, and we're really looking forward to seeing you all there again.

See you at the field,

Larry



*You will always like some people more than others, but it's important not to dislike the one you like the least.*

*Jim Gharbonneau 1995.*



## **Minutes of RDRC meeting**

**By: Secretary Dave Hockaday**

**Minutes will be on the website as normal.**

### **Internet Access at RDRC**

High speed internet access is available at the RDRC field for those of you with laptops, iPhones, netbooks, and other wireless devices. We have installed a feed for our cameras and weather equipment, and included a wireless router for support of other wireless devices. Some of you had mentioned wanting to help support the internet feed for the field data streams in exchange for secure wireless access at the field. If any of you are interested in this, send an email to: [wb4iuy@teara.org](mailto:wb4iuy@teara.org)

If anyone wants to chip in, we'll pass along the rotating security codes to those who support the system.





# Safety Officers Report



*Mark Lofgren*

SAFETY FIRST...2010 is nearing its end and has been good to RDRC in terms of safety. Only one incident caused a member to spend the afternoon getting a few digits sewn. A recent near disaster was caused by not paying attention to proper placement of a member's mechanical restraint compounded by an incorrectly mounted throttle servo arm causing the engine to start at a level way above idle. Fortunately, bruising of the member's leg by a wooden propeller was the only injury. Bad stuff can happen fast. Many of our aircraft have had a long, active season. Perhaps they should be checked for end-of-the-year fatigue. RDRC's membership has grown incorporating a variety of flying styles and airframes. Drafting proposed flight-line rules to meet the club's needs is proving to be a challenge. What one member considers a needed rule another member might take as an insult or challenge. The foundation of any rules will be polite consideration of one another. If a member does something dangerous or offensive, talk to him about it. He might not be aware that the infraction occurred. Have a great holiday season and prepare for a safe year.





The **Science Olympiad** is a yearly competition run, in schools, throughout the United States. It consists of a number of different skill and knowledge based areas. The one that the RDRC have been asked to assist with is for rubber powered helicopter duration.

Here is a copy of the email from the organizer for the school who approached us :

Dear Mr. Langridge,

Thank you for the cordial brief conversation I had with you a few minutes ago. Following up on our conversation, please find attached a document titled "**Science Olympiad Flyer for RDRC - 2010**" that details all about our request.

We are reaching out to RDRC members particularly seeking mentors to coach the NC Science Olympiad Event called the **Helicopter Duration**. The Details and Rules for this event are in these links.

<http://www.sciencenc.com/event-help/helicopters.php>

Guy B. Phillips Middle School in Chapel Hill, NC is a ABC Honor School of Excellence. <http://www2.chccs.k12.nc.us/education/school/school.php?sectionid=5739>

We also have our Phillips Middle School Science Olympiad Website mainly for SO related communication purposes.

<https://sites.google.com/site/phillipss2011/event-list-resources>

We would love to hear from RDRC members who would like to mentor any other NCSO event listed on

<https://sites.google.com/site/phillipss2011/event-list-resources/events-coaches>

Please find more details on what a person is expected to do as a Science Olympiad coach or mentor in the attachment titled "**so\_coachesUpdate1**"

Please do not hesitate to call or email me should you have any questions or concerns.

I sincerely thank you for your kind cooperation.

Regards,

Sudha Subramanya

919-225-0297

So if anyone else in the club would like to spend an hour or so a week helping out with this or any of the other events please let Sudha know via her telephone number. I can forward the email to anyone who wishes to help out as well.

Thanks

Dave Langridge

## HELICOPTERS

1. **DESCRIPTION:** Teams construct and test free flight rubber-powered helicopters prior to the tournament to achieve maximum flight times.

**A TEAM OF UP TO: 2 IMPOUND:** motors only at check-in **TIME:** 15 minutes

### 2. CONSTRUCTION PARAMETERS:

a. **DESIGN:** Helicopters may be constructed from published plan(s), commercial kits, and/or a student's design.

b. **MATERIALS:** The **functional components** (rotors, rotor blades, vertical stabilizing surfaces, and motor stick) of the helicopter must be constructed only from wood, paper, plastic film covering, and glue. **The functional components must not be constructed from rigid plastic.** The functional components may be attached to each other using **tape**, thread, music wire, malleable wire, paper, metal or plastic tubes, and/or rubber bands. **The helicopter may be braced with string of any base material.** Kits must not contain any pre-glued joints or pre-covered surfaces. Plastic or rubber o-rings may be used to attach the motor to the helicopter rotor(s).

c. **MASS:** Total mass of the helicopter throughout the flight, excluding the rubber motor, must be 4.0 grams or more.

d. **ROTORS: Rotors are defined as surfaces that contribute lift by rotating on a common path around a vertical axis.** The helicopter may use up to three fixed pitch rotors, not exceeding a maximum diameter of 40.0 cm. There is no maximum limit on the number of blades or their chord. There must not be any other lifting surfaces.

e. **ROTOR CONSTRUCTION:** Competitors must construct the rotors themselves. Commercially available rotors or propellers must not be used in whole or part. Rotor thrust bearings may be commercially available items.

f. **POWER:** The helicopter must be powered by rubber motor(s) not exceeding a total mass of 2.0 g, including any attachments such as o-rings. **Motor(s) must be removable from the helicopter for check-in.** The motor(s) must be massed separately from the helicopter. Motors may be lubricated before and/or after check-in. Motors will be massed at check-in, and officials will impound qualified motors. Qualified motors will be made available to the team for official flights.

g. **MARKING:** Each helicopter must be labeled so the Event Supervisor can easily identify to which team it belongs.

### 3. THE COMPETITION:

a. The event must be held indoors. **Tournament officials must announce** the room dimensions (approximate length, width and ceiling height) in advance of the competition. Tournament officials and the Event Supervisor are urged to minimize the effects of environmental factors such as air currents (e.g., doors, fans).

b. Once competitors enter the **cordoned** off competition area to trim, practice, or compete, they **must not** receive outside assistance, materials, or communication. Teams violating this rule will be ranked below all other teams. There must be a separate area designated for spectators.

c. Each team must present a flight log of recorded data during inspection. Data must include at least 6 parameters for at least 10 test flights prior to the competition. The required parameters are: 1) motor size before windup, 2) number of turns on the motor at launch, 3) flight time. The team must choose 3 additional data parameters beyond those required, (e.g. turns remaining after landing, estimated/recorded peak flight height, the torque at launch).

d. At the Event Supervisor's discretion, practice flights may occur throughout the event but must yield to any official flight. Multiple practice flights may occur at the same time. No trim (practice) flights will be permitted in the last half-hour of the event, **except for teams that declare a trim flight during their 8-minute flight period.**



A self-check inspection station may be made available to competitors for checking their helicopters prior to being checked by the Event Supervisor.

f. Competitors may use any type of winder, but electricity may not be available.

g. Team members must present their event materials (helicopter(s), motor(s), and log) for inspection immediately prior to a team's 2 official flights. **Qualified motors must be held by the official timer and dispensed at the team's choosing during the team's official flights. Event supervisors are strongly urged to return flight logs after inspection.** Timers **must** follow and observe teams as they are winding their motors.

h. Teams may make up to a total of 2 official flights using 1 or 2 helicopters.

i. Teams will be given an 8-minute "Flight Period," starting when their first **flight after check-in (trim or official)** begins. Any flight beginning within the 8-minute period will be permitted to fly to completion. Competitors may make adjustments/repairs/trim flights **and qualify additional motors** during their official 8-minute period. Teams must declare before any launches during their flight period whether it is an official flight or trim flight. If teams do not indicate the flight type before launch, it **must** be considered official. Teams **must** not be given extra time to recover or repair their helicopter(s).

j. **The team may select any previously approved motors held by the timer for each official flight.**

k. The **timing official** will measure and record the "Time Aloft" **in hundredths** of a second for each flight.

Time Aloft for each flight starts when the helicopter leaves the competitor's hand and stops when any part of the helicopter touches the floor **or the rotors no longer support the weight of the helicopter (such as the helicopter landing on a girder or basketball hoop).**

l. The Event Supervisor may permit other official flights during the flight of another team's helicopter.

m. Competitors must not steer the helicopter during flight. In the unlikely event of a collision with another helicopter, a team may elect a re-flight. The decision to re-fly may be made after the helicopter lands. The eight-minute period does not apply to such a flight.

4. **SCORING:** The base score is the team's longest **single** flight time. Ties will be broken by the longest nonscored flight time.

a. Teams with incomplete flight logs must have 10% of their flight time deducted from each flight.

b. Teams without flight logs must have 30% of their flight time deducted from each flight.

c. Teams that violate a rule under "CONSTRUCTION" or "THE COMPETITION" that does not have a specific penalty must be ranked after all teams that do not violate those rules.

**Recommended Resources:** All reference and training resources including the **Helicopters DVD** are available on the Official Science Olympiad Store or Website at <http://www.soinc.org>

**National Science Education Standard:** Content Standard E: All students should develop abilities of technological design and understandings about science and technology.



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