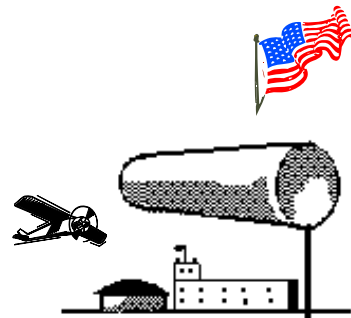


THE WINDSOCK

PUBLICATION OF THE TRI-LAKES R/C FLYING CLUB
EDITOR - DON JOHNSON - 272 SOUTH PORT LN Unit 33, KIMBERLING CITY, MO 65686
(417) 779-5340 e-mail molake@excite.com
CLUB WEB SITE <http://www.bransonrc.org>



VOLUME 13 ISSUE 3

MARCH 2006

MARCH MEETING

MARCH 14 , 7:00 PM

Meet at the Branson RecPlex, 1500
Branson Hills Parkway.

Program

Bring your current projects for "Show
and Tell"

THE PRESIDENT'S CORNER

Hello to all flyers!

What an awesome place to call our new home and meet at during the winter months! The club will be paying \$25 per month for the meeting room at the Branson RecPlex. If the weather is nice, we could even meet outside on the patio. We have a chance to do a lot for the community by helping the RecPlex put on some kind of show for the kids 2 or 3 times this summer. There will also be the big event with the main opening of the baseball teams. So

TRI-LAKES R/C FLYING CLUB

PRESIDENT
GARY ACTON 334-3917

VICE-PRESIDENT
BUD AUSTIN 561-4466

SECRETARY
ANNETTE McEVOY
417 581-1241

TREASURER
ERV ROHDE 538-2439

SAFETY OFFICER
JOHN WOODS 338-8419

FIELD MARSHALL
BUD AUSTIN 561-4466

INSTRUCTORS
RAY DIXSON 870 426-4310
ROSCOE FUDGE 336-5841
JOE MAJOR 337-5808
ERV ROHDE 538-2439
JOHN WOODS 338-8419

even if you can not fly in the shows, we need people to help do other duties while the shows are taking place.

I want to thank Bud Austin for taking the office of Vice-President and Roscoe Fudge for serving as the Fun Fly Director. Thanks guys!

I still want to stress that the owners of the property (of our current flying field) are coming down this summer to evaluate what they want to do with the land. We still need all our members to keep our eyes and ears open to a flat piece of land that could be a flying field. We are very interested in looking into any of your suggestions.

If you see any of the club members that have not joined the club for 2006, please encourage them to re-join us. Lets get our club back up to 55 members or more!

Till then, keep flying!

Gary Acton

MEETING MINUTES

TRI-LAKES R/C FLYING CLUB

February 14, 2006

President Gary Acton opened the meeting at 7:10 p.m. at the Branson RecPlex. All officers were present. There were 18 members and member's wives Doris Rohde & Janet Woods present. New members Fritz Corbin & Vern Crabtree were welcomed. The minutes from the December meeting were approved as published in the January Newsletter. Treasurer Erv Rohde reported that the treasury balance as of February 1st was \$1,661.78. The 50/50 raffle was won by Don Johnson who donated his half of \$14.00 back to the club.

Committee Reports: Annette McEvoy reported that the recipes are coming in at a good pace and asked that anyone that hasn't sent theirs in as of yet please get them to Denise Anderson as soon as possible. They hope to get the book completed by the end of April.

Mark Niebrzdoski reported that he did an extensive rebuild on the mower but it is now in good condition. Cost to repair came to \$351.09. Motion by John Woods, 2nd by Howard Shire to reimburse Mark for his expenses, passed unanimously. Mark said that overheating due to no air circulation from the mower being clogged with grass, etc. and it being low on oil is what caused the damage. He will check out the other mower to see if it needs any attention. Howard will make signs to be posted on the mowers and anyone using them is asked to please be sure to run down the check list prior to operating them.

Announcements and Old Business: Erv Rohde reported that the rent for the field of \$400 has been paid for 2006.

Annette McEvoy reported that she contacted the owners of the property and they are not interested in selling.

Gary Acton reported on all of the calls that he made regarding trying to locate another property that we might use for our field, either by leasing or purchasing. He contacted the Corp. of Engineering and the Empire District Electric Company and was told that there is nothing available through them. He also contacted Rocky's Res-

taurant to find out about the property that is next to the ABC Campground and was told that the land was under contract. He found out from the Mo. Conservation Dept. that they may have a piece of property that we could use however it is over by Crane and may be too far. We need to write up a proposal on what we would like to use the property for if we are interested in it. He also spoke with the University of Mo. Extension Service and was told about a dump site that we could look into over by Ants Creek. There is one more piece of property that he is going to try to find out about between Hwy 248 Hwy, 160 & Hwy 65.

Gary also tried contacting Ken Barth at the Branson Mall to inquire about the possibility of putting on a mall show. Ken hasn't called him back as of this date.

New Business: John Woods reported that he has fixed all of the problems with the Club plane. There was a leak in the fuel tank which got into the receiver, the batteries had a poor connection and he had to install a new transmitter battery. The trainer is now ready for use again.

John also reported that there is a weather station site that we can go to for the weather at our field which is updated every 15 minutes. Mike Anderson will be sending out an email with all of the information to the members.

John Woods reported on the visit that he and Gary Acton had with Eric Brower, the recreational specialist at the Branson RecPlex. They want us to give a demonstration at the opening summer day camp. We can fly on the soccer field which is appx. 200 x 300 ft. with a couple of 50' light posts which we will probably have to put spotters by. They are having an event Sunday afternoon-July 9th that members may participate in if they are interested. Contact John for information and to sign up to help. There is also a program that approximately 80 kids take part in and we may put on a show for them. More information will be forth coming.

Gary Acton asked if anyone was willing to step up and take Larry Gliser's Vice President position. Bud Austin volunteered. Motion by Jack McEvoy, 2nd by Roy Steinzel, passed unanimously. Roscoe Fudge volunteered to act as Fun Fly Direc-

MINUTES CONTINUED ON PAGE 3

for this year. He will announce the dates and classes that we'll be using for this years events.

Program: John Woods brought his new Charlie Roth GeeBee featuring a 180 Saito that he's run 5 tanks of gas through. It has a 14oz tank which he plans on replacing with a 32oz tank and made guide wires ala Gary Metzger style with 80 thou. Weed eater line. He looked into the history on the full scale and discovered that "GB" came from the Granville Brothers when they built the 1931 700+ hp model. John's Great Planes ARF looks terrific.

Jack & Annette McEvoy gave a two part talk on their Ercoupe project. Annette explained the research that went into the Flight Metal that they are covering it with, how it is applied and how the rivets are made. Jack had the wing assembly set up complete with 4 "bread boards" with all of the electrical components displayed that are necessary to run the airplane. He gave a little demo on how bright the LED lights actually are.

Jim Halbert brought his new powered glider based an a Free Flight design. He used some composite material in the construction of the wing. The plane is made of foam, balsa & carbon fiber. Jim's getting 200 watts from his brushless AXi motor.

Erv Rohde displayed his Lanier ProTwister that is currently under construction made of 3/8 balsa square sticks and 16" sheets. He'll be using a 46 engine when it's completed.

Don Johnson brought his latest brushless motor project. It's a build it yourself motor which cost him \$9. He had to wind the stator and install 12 Rare Earth magnets in the bell. He's thinking of using it in his Speed 400 size warbirds. With 830 LiPoly batteries he's getting 75 watts with 11 oz thrust. Figures the top speed will be appx. 28 MPH using an 8x3.8 prop.

Bud Austin has a couple of weed eater engines for sale, they're appx. 31cc. Also a K&B 20 RC Sportster for parts-\$15.00.

Meeting adjourned at 8:54 p.m.

2006 DUES ARE DUE

If you haven't paid your 2006 dues yet you can pay them at the March 14th meeting or send a check or money order payable to TRI-LAKES R/C FLYING CLUB, to:

ERV ROHDE
928 Jackson Hollow Rd.
Galena, MO 65656

The dues schedule is as follows:

1. **FULL MEMBERSHIP** - \$65 per year.
2. **ADDITIONAL FAMILY MEMBERS** - \$5 ea / Yr.
3. **ASSOCIATE MEMBERSHIP**(non-voting) 15/ yr*
4. **STUDENTS** - Free Club membership but must be a current AMA member.

*A person can join as an Associate Member if he/she lives outside Taney County or counties adjacent or touching Taney County. A non local person can also join as a Full Voting Member if desired.

To maintain 2006 flying privileges your 2006 Club dues must be paid and your current (2006) AMA membership card must be shown to Erv Rohde.

CURRENT 2006 CLUB MEMBERS

The following Club members are current in their 2006 dues.

Gary Acton, Erin Anderson, Mike Anderson, Denise Anderson, Bud Austin, Sid Beckham, Dave Carnahan, Fritz Corbin, Vernon Crabtree, Del D'Alessandro, Paul Denny, Phil Equi, Roscoe Fudge, Gene Fuson, Cody Garber, Dick Haan, Jim Halbert, Don Johnson, Reeder Jones, Curt Krause, Don Livermore, Evan McCartney, Mark McCartney, Annette McEvoy, Jack McEvoy, Tom Mckenzie, Dave Medley, Gary Metzger, Mark Niebrzydowski, Dick Peterson, Henry Racette, Erv Rohde, Craig Schmidt, Marsha Schmidt, Howard Shire, Roy Steinestel, John Woods and Homer Zobel.

If you are not on the above list but feel you are current in your 2006 Club dues contact Erv Rohde.

THE EDITOR'S NOTE PAD

If you haven't renewed your Club dues for 2006 and plan on doing so, it would be a favor to the Club Secretary if you did so before or at the March 14th meeting. Otherwise she must make out paperwork that says you are no longer a member of our Club and send it to AMA, then later if you pay your dues she has to make out more paperwork and send it to AMA saying you are now a member of the Club. But if you do miss the membership cut off, you can still pay your 2006 dues and be reinstated in the Club at any time during the year. We have 20 members, at this time, that have not renewed their 2006 dues. There is always some attrition when a new year rolls around but we hope that many of these 20 will decide to continue to be an active part of the Club.

Did another DOING ELECTRICS column on page 5 just because I got a bug to make a couple of brushless motors. You can do this because brushless motors are really simpler than brushed motors. The CD-ROM drive type motors I made are probably the least powerful at 70 watts or less. Gobrushless.com does have some other kits that probably can put out about 250 watts. But other than the great learning experience and the feeling of accomplishment it's easier to select a commercial unit made for model airplanes. O.K., just so you don't think this project was totally educational, the 70 watt CD-ROM motor along with a 830 mAH 3 cell Li-Po was put in a 30 inch Hellcat, replacing a Speed 400 motor and 8 500 mAH Nicads producing 90 Watts. Got test pilot, John Woods, to take it up and after some adjustments it seemed to fly quite well even though it obviously was a little tail heavy. Bottom line—less top speed but more thrust from the bigger prop, less power (22%) but less weight (19%), hand launches easier and has almost three times the air time at full throttle. And John was able to tool around the field at less than full throttle. Not bad for an experiment!

It has been brought to my attention that the pit area is getting cluttered with cigarette butts. One of the main rules of the Club is IF YOU BRING IT TO THE FIELD YOU TAKE IT HOME WITH YOU. This includes broken airplanes, props, rubber bands, candy and food wrappers, cigarette butts, etc. If you have guests with you it is your responsibility to advise them of this rule. The Club has no janitor so it is up to every member to clean up after him/her self.

SAFETY 1ST

For all those who use starters and glow drivers that are "wired" to a flight box, be especially conscientious of where the wires are in relation to your plane's prop. It isn't a pretty sight when the propeller grabs those wires : (

Also, if you use a neck strap leave it attached to your transmitter and not around your neck when starting an engine. This could get really ugly.

See you at the field.

John Woods
Safety Officer

NEW MEMBERS

The Club's membership is now 38 for 2006.

Vernon Crabtree has become a Club member. He and his wife B.J. live in Branson.

Fritz Corbin has also joined our Club. He and his wife Jean live in Reeds Spring.

Welcome to the Club Vernon and Fritz, we are glad to have you join us.

TRI-LAKES FINANCIAL STATEMENT 2006

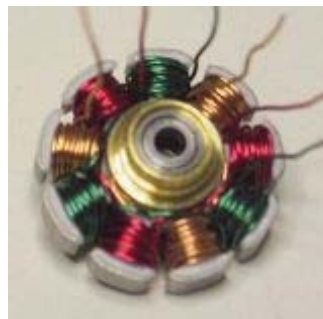
	FEB	Y T D
BALANCE 2/1/2006	\$ 1,661.78	\$ 1,177.43
INCOME-DUES -----	\$ 405.00	\$ 910.14
INCOME-SHIRTS&CAPS	\$ 5.00	\$ 20.00
INCOME-FOOD -----	\$ -	\$ -
INCOME-50/50 -----	\$ 14.00	\$ 25.00
INCOME-MISC -----	\$ -	\$ 16.00
EXPENSE-FIELD -----	\$ 751.09	\$ 781.09
EXPENSE-NEWSLETTER	\$ -	\$ 8.54
EXPENSE-SHIRTS&CAPS	\$ -	\$ -
EXPENSE-FOOD -----	\$ -	\$ -
EXPENSE-AMA -----	\$ 95.00	\$ 95.00
EXPENSE-Web -----	\$ -	\$ -
EXPENSE-meeting room	\$ 25.00	\$ 25.00
EXPENSE-MISC -----	\$ -	\$ 24.25
BALANCE 3/1/2006	\$ 1,214.69	\$ 1,214.69

DOING ELECTRICS

By Don Johnson

Several of our members have purchased small electric airplanes or are considering to do so. To do this a choice has to be made to get either a brushless motor or a brushed motor, so what is the difference? Well a brushed motor has brushes and a brushless motor doesn't. That's it? Well no, a brushed motor has two wires attached to it and a brushless has three wires. Oh yea, to get a little more technical, in brushed motors the windings rotate on the shaft that the prop is attached to. Brushless motors rotate the magnets on a shaft that the prop attaches to while the windings do not rotate. Having the windings stationary allows the windings to connect directly to the speed control without going through power wasting brushes. There are two kinds of brushless motors, the first kind looks just like a brushed motor except for the three wires and has the magnets rotating inside the windings. These motors are usually high speed and can be mounted to gear boxes just like brushed motors. The other type of brushless motors is the outrunner. The outrunner has the magnets rotating in a can outside of the windings. This gives much more torque, at the same power level, than the regular brushless motor and allows the outrunner to turn a much larger prop. Remember at the same power input a large prop will give more thrust than a smaller prop even though the smaller prop is turning much faster.

To get a better understanding of what made an outrunner brushless motor tick I decided to make one. I went to gobrushless.com and ordered a CD-ROM kit shown in the top left photo. It consisted of 15 small magnets, a 9 segment stator, brass shaft bearing holder, rotor bell, shaft with two ball bearings, a tool to insert the bearings and three spools of wire. The price was \$9. With the aluminum motor mount, prop adapter and three wire plug the cost was about \$20 plus S&H. The top middle photo shows the stator after winding 20 turns on each segment. Each color wire is wound around every third segment so there are three beginning wires and three ending wires when finished. The wiring is complete when you solder the three beginning wires together and attach a three pronged plug with three different



color wires and solder each wire to the end of one of the windings. The top right photo shows the rotor bell with 12 small magnets CA'ed inside the bell. I made a motor mount by attaching a piece of brass tubing to the brass bearing support with JB Weld and attached that to the aluminum motor mount. To complete the motor just push the shaft into the bearings and attach the prop adaptor. The finished motor is shown with and without a prop in the lower photos. The Tutorial was downloaded from gobrushless.com and was easy to follow.

The obvious question is do they work? Actually I made two of these motors, one with 20 turns and one with 18 turns and they both worked. The 20 turn motor with a 7 3/8 (cut down from 8) X 3.8 APC SF prop weighs 1.4 oz. When attached to an 830 mAH 3-cell Li-Poly battery, it developed 71 Watts at 7 Amps, 8300 RPM and 11 ounces of thrust. Not bad for such a little motor. Actually this motor would be happier at about 6 Amps so may cut the prop a little more.

Actually did this as an educational whim and didn't really expect the motors to turn out so well. Gobrushless.com has many other and more powerful motors. So if you want to do-it-yourself go to their web site and check them out.



Above is a picture of what the meeting room at the Branson RecPlex looks like. Obviously plenty of room for our meetings and the far wall folds back opening into another room

which would give us more room if needed. There is also a small kitchen to the right and someone brought donuts and coffee for the meeting. Not sure who did it but it was a nice touch—many thanks.

Above right is the McEvoy's with their Ercoupe wing, all ten feet of it. They will cover it in real aluminum foil. They also showed the complete electrical system and demoed the lighting system. They also brought their scale documentation binder and construction record binder. Very impressive guys, anxious to see more as construction progresses.

At the other end of the building scale, lower right is John Woods' new Gee Bee ARF that he picked up at the KCRC swap meet—already built of course. At 68 inches it really is impressive, that's wing span but probably about the same for circumference. It is designed for a 91 to 108 motor so John has put in a 180 to give himself a little safety cushion on power. This should be a very impressive plane in the air.



TRI-LAKES R/C FLYING CLUB

Don Johnson - Editor
272 South Port Ln. Unit 33
Kimberling City, MO 65686

