The Wright Flyer

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Newsletter of the WRIGHT FLYERS R/C Club

Website: www.joeld.net/wfrc

Meeting Highlights

by Leo Davids, WFRC Secretary

On Tuesday, January 11th, the Wright Flyers held the monthly membership meeting at the Monticello Middle School, room #30

The meeting was called to order by president Wayne VanDenBoom at 7:12 PM. There were 13 people in attendance, including 5 club officers, 7 members, and a guest.

Leo Davids read the minutes of the December meeting as published in the January newsletter. An error was noted that the minutes should have stated that there were 38 club members in 2010, not 2011.

Perry Dziuk gave a treasury report. There was a $280 membership dues deposit, and $27.99 charge for bank statement canceled checks leaving the total at $4026.86

Club officers were installed for the 2011 term by a unanimous vote. President will be Wayne VanDenBoom, Vice-president, Tom Springer, Treasurer Perry Dziuk, Secretary Leo Davids, Safety Officer Garth Landefeld.

Perry Dziuk presented the financial summary for 2010. The year began with a balance in the treasury of $3279.0. Income collected totaled $1820 while expenses paid were $1352.19, leaving the ending balance at $3746.86. There was a net gain of $467.81 for the year. The major expense of about 38% of the total went to portable toilet service for seven months at the Montissippi Park Field. Next was about 18% for printing and mailing the club newsletter to about 24 of the 38 members. Around 11% of the expenses were the AMA club charter and insurance certificates for the flying field owners. All of these items accounted for two-thirds of the club expenses. The major expense missing form this year's operation was flying field mowing, which were about a dozen mowings and a weed spray treatment donated by 5or 6 club members. Otherwise, the treasury would have seen a substantial overrun of expenses against the income from membership dues.

Garth Landefeld brought in information he had gathered on the technique and costs of constructing a mat runway for the Montissippi Park flying field. He showed four different material samples which varied in heft and durability and the price varied accordingly. The best grade material would cost about $2100 for 2 rolls to make a 300 foot long by 30 foot wide runway with a 30 foot taxiway. The next best grade would cost about $1700. The lightest grade would be about $1300. To any of these prices would be additional cost to prep the ground under the mat and the supplies to fasten and glue the mat down. The ground has to be gotten to bare and compacted surface. Garth presented a price of $2,230 for the best mat and staples but this still didn't include herbicides, glue, paint or any equipment rentals to grade, drag and pack the field. It is likely that the project could exceed $2,500 or more, taking most of the club's treasury reserve. Garth's selection of 30 feet wide for the runway might be marginal but expanding to the next increment would easily send the

The next meeting is scheduled for **7:00 PM** on Tuesday, **February 8th**, 2011. It will be held in **Room 29** of the **Monticello Middle School**.

cost past $3,000.

Tom Springer observed that given the susceptibility of this kind of a runway to vandalism (which has been seen repeatedly over the years on the grass surface we have), the open access by the general public to the field would present a substantial risk of the club's investment in this kind of runway. Surfaces more impervious to vehicle and assorted other vandalism might be a better alternative. Garth mentioned soil cement as a possibility that could be investigated. Garth concluded that his research into mat runways had swayed him to not recommend such a project for our field. Some members at the meeting may see if they could find any resources that would allow a less costly or more durable plan. The discussion brought no motions to the floor in support of a mat runway project so the idea was tabled until, or if, some different runway alternatives were brought to the floor at a future meeting.

The meeting was adjourned at 8:47 PM.

Show & Tell

by Leo Davids, WFRC Secretary

Joel Dirnberger brought in a Horizon Radian electric powered glider that he flew much of last season. What was noteworthy was Joel's use of some newly acquired LED strip lighting on the outside of the glider. So far Joel has purchased three rolls of LED strip lighting on eBay. The rolls are 5 meters long each of red, green and white LED's. A strip can be cut off a roll in 2-light increments with the light spacing of just under an inch. The strip has 3M tape on its back side to stick to smooth surfaces. There are solder eyelets repeatedly along the strip to attach power wiring. The strip can be powered from either a 2-cell or 3-cell LiPo battery to glow brightly but draws only a couple of watts even for long strips.

RC Reviews on the Internet

by Leo Davids, WFRC Secretary

I was recently introduced to what seems to be some well done reviews of RC products on YouTube. The name of this operation is Flite Test and can be found at http://www.youtube.com/user/flitetest. This was brought to my attention when they picked up sponsorship by Hobby King who emailed me a link to Flite Test because I'm on the HK product notification list.

It appears that the two Josh's (Bixler & Scott) that do the presentations started out more or less independently last fall, with products they already owned. Their presentations can also be accessed through RC Groups on the RC Blogs, stonekap's blog. This is the blog of Chad Kapper who is the director of the video segments.

The subject matter of their overviews and reviews tends to be electric powered aircraft and the products that support electric flying. They have produced about 43 videos so far and every one of the half dozen or so I've watched are informative and entertaining with overall quality on a par with anything else I've found on the internet. They use a dumb guy, smart guy kind of bantering to present a topic which succeeds in keeping it from being dry and dull. It remains to be seen whether this format will wear itself out. Possibly they are setting up "dumb Josh" to be the new student to be trained and learn to enjoy the hobby.

As with most "professional" reviewers, they shy away from being too negative about a product's shortcomings but they at least give a heads up concerning any problems that you need to be aware of. I'm sure they are fishing for more sponsorships and free stuff to review since they don't make any money

putting their work on YouTube. Give the Flite Test guys a look and see for yourself if what they are up to appeals to your interests.

Upcoming Events

Twin City Radio Controllers Auction - The 35th Annual Auction will be held at Cross Point Church in Bloomington on Saturday, February 12th. Mark your calendars now so that you won't miss the largest RC Aircraft auction in the Midwest. There is a forum started on RC Universe at: http://www.rcuniverse.com/forum/m_10142053/tm.htm where photos of items that will be auctioned can be posted and viewed. Advanced seller registration is now open by visiting the TCRC web site at http://www.tcrconline.com/pages/auction_seller_registration.htm.

Servo Arms

by Richard Lindberg, From the Rocky Mountain Flying Machine, Albuquerque, New Mexico

"Those pesky servos—why can't I ever find one that's properly centered? Every time I attach an arm, it seems as though the servo center shifts! What's going on here?"

Sound familiar? What causes this and what can you do about it?

All (standard-sized) servos today have splined shafts on which those servo arms are bolted. The problem arises because of the number of splines (teeth) on those shafts—Airtronics and JR use 23 splines, Hitec uses 24, and Futaba uses 25. (Your radio may be different—grab a servo and count the splines on the shaft to find out. Use a magnifying glass!) This is a really neat feature, and you should take advantage of it when you set up your airplane!

Put a servo arm on a servo. Now, every time you lift and rotate the arm by one spline, you change its position by a fixed number of degrees: for Airtronics or JR, this is 15.65º, for Futaba its 14.4º, and for Hitec it's an even 15º. The formula is simple: 360º divided by the number of splines. Now consider that your servo arms have an even number of fingers—two, four, even six. You can see by experimenting that rotating the servo arm and putting each finger as near as possible to where its predecessor was (about 90º, or 180º, or 60º) will result in a shift in position of 3.91º, 3.6º or 3.75º for Airtronics/JR, Futaba, and Hitech respectively. The formula is equally simple: 360º divided by (the product of the number of splines times the number of fingers). So, for Futaba, finger one is assumed at 0º, finger two (rotating clockwise) is placed at 3.6º offset, finger three at 7.2º, and finger four at 10.8º. (For Airtronics/JR, use multiples of 3.91º, and for Hitec use 3.75º.)

"Whoa, that's too complicated for me!" I hear you exclaiming. Well, don't worry about it—just keep rotating and pressing on the servo arm until you get a finger as close as possible to that magic 90º position.

One of those fingers will be right. (Actually, Futaba makes it simple—the fingers are numbered! Choose number one and you're there. JR has a raised dot in the lower right of its number one finger. It doesn't matter as much with Hitec, as there are even numbers of splines, and two of the fingers (out of four) will be right at any time.

Incidentally, the number of splines being different is the reason why servo arms are not interchangeable between servos of different brands—don't try to use Futaba arms on JR servos, etc.

This also clears up the apparent servo-centering shift. Most of the servos today have electronics that are so good that mechanical centering is a thing of the past and isn't necessary. If you in fact have a servo that won't center properly, or consistently, it's probably bad! Send it back for repairs!

Some Helicopter Nitro Tuning Tips

By Ron Keith, From The Plane Truth, The Circle City Flyers of Corona, California

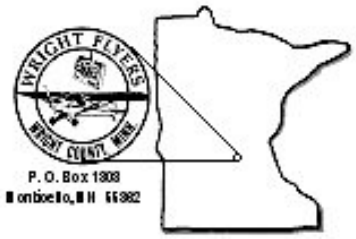
Low Needle Pinch Test

The pinch test is the first method to tune your idle setting:

1. Hover the helicopter for 30 (somewhat) seconds.
2. Land it and drop the RPM to idle.
3. Pinch the fuel line closed just before the carburetor (where the fuel line is connected to the engine) and start counting the seconds.
4. The engine should rev up and die because of lack of fuel.
5. If it is between three and five seconds it's all right.
   a) Sooner? Too lean. Turn the mixture control screw leaner for 10° counterclockwise.
   b) Longer than five seconds? Too rich. Turn the mixture control screw leaner for 10° clockwise.
6. Return to step one until you have it right.

Tuning the High Speed/Main Needle

Step One: Hover the helicopter and check if the RPM



In This Issue

2011 Club Officers

Pres	**Wayne Van Den Boom**	**763-443-4440**
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Treasurer	**Perry Dzuik**	**763-477-6865**
Secretary	**Leo Davids**	**763-263-3577**
Safety Off	**Garth Landefeld**	**763-497-5828**
News Ed	**Jean Davids**	**763-263-3577**

Café Express

Want club logo apparel & other items? Shop here: http://www.cafepress.com/wrightflyersrc.

If you have news or ideas for articles you would like to see, you can email me at jedweb@charter.net or call me at 763-263-3577. Jean Davids

stays stable and smoke is "normal."

- Is the RPM increasing after a while? Then it's too lean.
  - Land the helicopter and turn the main needle three clicks counterclockwise (richer).
- Is the engine losing power after a while? Then it's too lean.
  - Land the helicopter and turn the main needle three clicks counterclockwise (richer).
- Is the engine sluggish and not getting up to speed? Too rich.
  - Land the helicopter and turn the main needle three clicks clockwise (leaner).

Step Two: Fly the helicopter full speed horizontally.

- If the engine is losing power, it is too lean.
  - Land the helicopter and turn the main needle three clicks counterclockwise (leaner).
- In doubt?
  - Play around with the main needle until you get the optimal performance.
- Another way to fine-tune this is to do a fast-forward flight and do a hard climb into a stall turn. Listen to the engine bog down. Play with the main needle to get your optimal performance on this maneuver.
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Let's go fly!