Western R/C Flyers

OMAHA NEBRASKA
AMA 857 - IMAA 284

TAILSPIN NEWSLETTER

November 2012 Issue

President: Rick Miller
Phone: 402-624-2530 email: rick.miller@kellogg.com

Vice President / Tailspin Editor: Nelson Carpenter
Phone: 402-709-3651 email: nelsonsc3@cox.net

Website Director: Joe Halamek
Phone: 402-592-7876 email: wrcflyers@aol.com

Treasurer: Dean Copeland email: dcopeland@tconl.com
Address: 15668 Fountain Drive, Omaha 68118 Phone: 402-334-2787

Secretary: Rick Johnson
Phone: 402-676-3054 email: rcbrunch@exite.com

A Word from the President

To the membership of the Western RC Flyers:

I would like to thank all of you who have supported the club. That includes our activities and events this year as well as in the years past.

It has been a rewarding experience to work with the RC community, and especially this club. My approach has been and I intend to continue to take a reserved, but yet pro-active and committed, attitude towards our clubs Growth, Activities, and Future.

I believe that we have had a great year, and that we all should feel proud of our club's accomplishments and status.

Our field has been improved, and we have had some great events this year, with improved member turnouts and new memberships.

I would be proud to represent the club again this next year, if elected to do so. This meeting coming up is when we discuss nominations for officers of the club. We need you at the meeting to be a part of the club and to get your involvement. We need folks with the drive to serve the club as an officer to step forward. Continued involvement in the event operations is a focus point for next year. We need the support of the membership in running these club events.

On a different note, I hope all of you are working on those new planes for next year. Let's get some of those projects to the meetings to show everyone.

Thanks ***~ Rick Miller***

Next Meeting:

7:00 PM Wednesday - Nov 7, 2012

Location: Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.

(Bring an airplane for Show N' Tell!)

Vice-President's Corner

First, note change in November meeting date due to Election Day on the 6th.

After watching **Tim Peters** fly his .60 powered Big Stick "*hands-free*" at the field this summer, and listening to his presentation at last month's meeting, I asked him if he would write an article about his auto pilot system. Tim agreed, and will do several installments over the winter months. First part of his three-part series can be found in this month's newsletter.

As you read the newsletter, our good friend and fellow hobbyist has arrived in Las Vegas and settling in for the winter with his wife. **Bob Boumstein** will be playing in the desert with his airplanes and cars, while we have no idea what our winter will bring. But please Bob, come in from the desert long enough to share words of wisdom in your monthly column.

The *Omahawks* are holding their annual auction this coming weekend. Time to clean out and get rid of what you don't need. Probably be some bargains at the auction as typically there are.

By now you would have received your AMA *Model Aviation* magazine for this month. A huge "*Thanks!*" goes to fellow RC enthusiast **Ed Paasch** for the great write-up in the magazine covering our 2012 *Bud Hall Large Airplane* event. With Ed now in place as an AMA District IX Associate Vice President, the eastern Nebraska clubs will have much better representation. Thanks for stepping up, Ed!

I have four airplane kits that were squirreled away with the intent of building. All four kits are at least 10 years old, with two having been manufactured in the 1990s. They include the *Ace RC 1/4 scale clipped wing Taylorcraft; a Dynaflite PT-19; a Sig 1/4 scale Spacewalker; and a Balsa USA 1/4 scale Sopwith Pup*. Which one will I build? I'll just surprise all of you next Spring when I show up with one finished.

Welcome new club members!

Come out and fly! ***~ Nelson Carpenter***

Treasurer's Report

A copy of the October 2012 Treasurer's Report will be passed out at the November 6th meeting.

Thank You! ***~ Dean Copeland***

October 2012 Meeting Notes

Attendance: 8 Members

Details: First winter meeting held at the Papio NRD where we will meet through April.

Old Business:

No old business discussed.

Treasurer's Report:
Dean Copeland gave the treasurer's report. As of the October Meeting, we have 44 members. An increase by 4 from the previous September report.

New Business:

Old Timers/Glider Fun Fly:
The October date was to be rescheduled, weather permitting.

Out-of-State Membership:
An inquiry was received concerning the club's acceptance of members from outside our area. **Nelson Carpenter** has been communicating with one of the original Western RC Flyers now living in Texas. **Harold Walsh** was one of the key members who helped with the establishment of Mead as a club flying field in the mid 80s. He asked about him and possibly his flying buddy re-joining the club from afar. Of course everyone at the meeting fully supported out-of-state membership and would welcome Harold and his buddy.

Other New Membership:
It was noted that our club has been picking up new members from the Lincoln area who have discovered our fine flying field and club. They were welcomed.

Club Events 2013:
A short discussion was held about this year's flying events, and how they have been instrumental in obtaining new members in the club. Everyone thought that the flying events were important to the club in that regard.

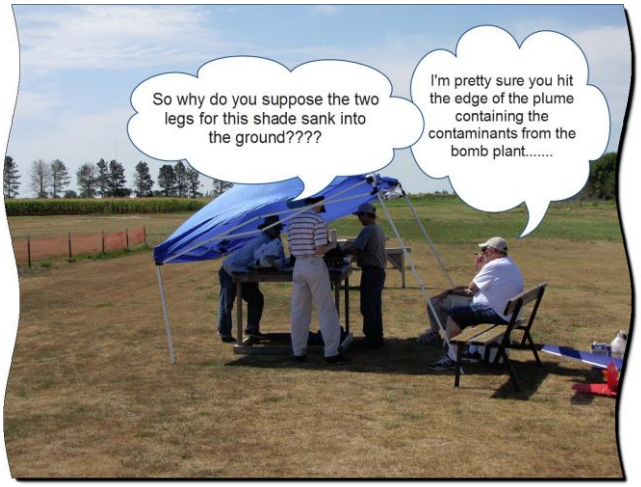
Relevant Flying Events for Club Members:
Discussion on how to make a flying event(s) that would be of interest to the majority of the club members. No matter what they flew. This is something that will be developed over winter for the 2013 flying season.

Show n' Tell:
Bob Burt brought *Santa in his Flying Sleigh* with a canard wing attached. Not very large of an airplane, but unique in design and the fact that it was made from solid oak. Yes, solid oak.

Tim Peters displayed his *Big Stick* with the auto pilot feature. He's discovered a new aspect to the hobby and demonstrated how the auto pilot functioned.

Bob Boumstein brought two *Wankel YS .60* size motors to show us. Both are of mid 1970s vintage.

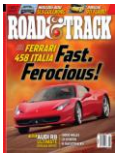
That's it! ***~ Nelson Carpenter***



The Phantom……

Rumors, Gossip and other Signs of Decay

I think I'm going crazy! The last two issues of *Model Airplane News* are reminding me of *Road & Track* and *Driver* magazines. You know these magazines that print articles about cars I will never own or be able to afford?!



What exactly am I talking about? See the following pages of the November issue of *Model Airplane News*:

1. *Page 35 article on Giant Scale F4U Corsair. This kit costs $749 so easily you got $2k into it!*

2. *Page 55 is a 30cc Bravata kit that costs $700 making it another $2k airplane.*

3. *Page 77 a T-Rex Heli kit costs $469 with thousands into it to make fly!*

4. *Page 96 shows a 35" wingspan electric Twist 3D costs $119 for a tiny airplane. My guess is you're at $300 or more to complete.*

Okay, so we got a 103-page magazine where 75% of the articles are rich guy stuff. I guess forget the rest of the hobby, just concentrate on the 10% that will or can spend that kind of money. Most of us have a few hundred tied up each airplane. But the components are transferrable to the next aircraft. The re-occurring expense is just the airplane.

So many people say it is sad kids either can't or don't care to get into our hobby. Well printed articles on the most expensive aircraft, best radios, and fanciest engines, is certainly not the answer. No articles on affordable powered gliders, but how many are we seeing at the field? No articles on the great affordable ARF kits, but how many are we seeing at the field? Old timer aircraft; *Model Airplane News* doesn't care for them. Sport planes? No way! Sport scale? Pray for absolution!

Bottom line is build, buy, fly. Whatever it is you like. If you are going to go expensive, shop for it. I just bought a *Venom PS 350* power supply on-line. Omni Hobbies wanted $90 plus $8 shipping. I hunted on eBay and got it for $85 with free shipping. The deals are out there! You have to make the effort to get them.

Happy Trails! ***~ Bob Boumstein***

Website: http://www.weflyrc.org/

AUTOPILOT IN AN RC AIRPLANE

Installment 1 of 3

by **Tim Peters**

My R/C project for this year was to try an autopilot in an nitro-powered R/C airplane. I have been interested in doing this ever since I read an article in Model Aviation about **Maynard Hill** and his team using an autopilot-equipped airplane to cross the Atlantic Ocean from the US to Ireland in 2003. (*For more information about this, link to http://tam.plannet21.com/.*) I became really interested in the idea of having an airplane do 'autonomous flight'. By that I mean that, once airborne, the aircraft would fly a series of checkpoints one-by-one, without any interaction from the pilot. It was important that I be able to take command of the airplane at any time, most importantly for takeoff, landing, and to interrupt the flight if things weren't going according to plan. Reviewing existing autopilots showed me three things. One, they were expensive. Two, there were multiple units that had to be configured and connected to work together, requiring more electronic knowledge than the average modeler has. The third item was the need to create the computer software to make it all work.

That all changed about a year ago. Web searches led me to 'do it yourself drones' (*www.diydrones.com*). Right away I was interested. DIY Drones offers a complete autopilot unit with three-axis stabilizer, barometric pressure (*altitude*) sensor, and a GPS. This is all is packed into a single circuit board approximately 2 inches by 3 inches. It can be purchased completely assembled with connectors for $200. The best part is that the computer programming is done by a group of r/c hobby enthusiasts. It is 'open source' which means that (*with the right tools*) you can download the source code and modify it to suit your needs---if you want to. For me, there was no need to do that. I am using their programming as-is, and the software is FREE! The software is under continual development and updates are available from the web site. In fact, whenever I launch the application from my laptop, there is usually a pop-up telling me that an update is available and will install it if I give the ok.

The autopilot is called APM. Depending on the software installed it will control either a fixed-wing aircraft, traditional helicopter (*main rotor/tail rotor*) or a variety of multi-rotor head helicopters. Check out diydrones.com for more information on the different deployments. I planned to use the APM in a fixed-wing airplane. In looking at some of the DIY drones forums, it appears that most of the guys were using electric-powered aircraft. I didn't like that idea as I thought using electric power would limit the flight times. I wanted to use a nitro-powered plane.

Back in April I ordered the DIY Drones APM autopilot. The autopilot fits into the R/C equipment like this: The receiver channels plug into one end of the APM, and the servos plug into the other end. The signals from the receiver are captured by the autopilot before they are sent to the servos. In my configuration I used the standard four channels, Aileron, Elevator, Rudder, and Throttle. In addition I use a fifth channel to control the autopilot itself. This last channel is controlled by a 3-way switch on the transmitter. You can program the autopilot to respond to the switch in a number of ways. I chose Manual, Stabilize, and Autopilot for my 3-way switch. In manual mode, the autopilot passes the signals directly from the receiver to the servos--the plane acts as though the autopilot is not present. I use that mode for takeoff, landing, and to interrupt any mission if needed. In stabilize mode, the autopilot tries to keep the airplane straight and level. If I give it a hard right aileron command and then center the stick, the airplane will bank and then immediately return to level flight. Same thing with an up elevator command. Once the stick is centered, the airplane will return to level. I use the stabilize mode to test the autopilot prior to engine startup. I hold the plane and manually bank and pitch it, watching the motion of the ailerons, rudder, and elevator to check that they move in the direction to correct the bank or pitch action. (*I do this prior to every flight*.) Autopilot mode signals the APM to execute all of the 'mission commands' that have been programmed into it. Keep in mind these are just the three modes that I have been using, there are other options as well. Check the web site for more details.

I had to wait about six weeks for delivery of the APM (*there was a waiting list*). In addition to the APM, I purchased (5) female-to-female connector leads. This is because the receiver connectors are male as well as the APM connectors. You could certainly create your own connectors, but I thought *DIY Drones'* price was very reasonable. The servos plug into the APM without need of the previously-described gender-bender cables.

While waiting for the APM I had to figure out what airplane to put it in. I wanted an airplane with ample internal space to hold the APM and the other electronics. I decided on a *Great Planes Stick-60 ARF*. This has turned out to be a good choice. I was concerned about the extra weight of the APM (*why I don't know...*) so I purchased a Magnum 90 four-stroke motor. This is probably more motor than needed, a 60-size engine would work fine and provide better prop-to-ground clearance than the 90. The rest of the electronics are Futaba, I use a 72-MHz 9C transmitter, receiver, and a mixture of servos. High-performance coreless motor servos are used on each aileron and the elevator; standard ball-bearing servos are used for rudder/nose steering and throttle. The Great Planes ARF assembled easily. The only change I would make is to anticipate the amount of tail…….

Cont. page 5

AUTOPILOT IN AN RC AIRPLANE Cont.

…..weight that was needed for balance. Had I known how much was needed, I would have mixed lead shot into epoxy and cemented it into the fuselage tail section before gluing in the rudder. As it is, I have a LOT of stick-on lead weight on the bottom of the tail surfaces. This is due to the weight of the motor and its forward location on the engine mounts. I test-flew the airplane about ten times to trim it out before installing the autopilot. Most of the test flights involved getting the right amount of weight in the back to get a good fore-aft balance point.

What else is needed. Let's see: Airplane, normal R/C gear (*I use a 2000 MAH battery pack as the APM is powered from it as well*), APM unit.....and a computer! Yes, you need a computer to download the programs used by the APM. You also need it for configuring the APM and setting up the 'missions'. So you need a computer with internet access. Ideally it should be a laptop for portability. That way you can make adjustments at the flying field. I use an older laptop for this. A USB cable connects the computer to the APM unit to upload and download programs and logs. Yes logs... the APM logs flight information during its use and you can download the logs to your computer for analysis. You can get some really interesting information about your airplane from this; things like cruise speed, takeoff and landing speed, altitudes, and so on. Some of the logs are compatible with google earth maps and will actually show you the flight path of your aircraft. Neat stuff! Note that the laptop does not go inside the airplane :). You disconnect the USB cable between the laptop and the APM once all the programming has been uploaded. Although I brought the laptop to the flying field the first few times, lately I leave it at home, assuming I won't change missions or any other APM settings while at the field.

OK. after six weeks the APM autopilot finally arrived....stay tuned....

If any of you have questions or comments in the mean time, feel free to email me: tpeters99@cox.net

Tim Peters

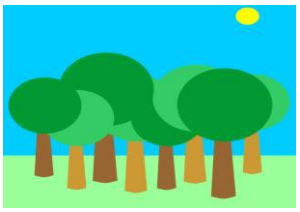
October Show n' Tell

Santa's Canard prepped for Christmas 2012. Belonging to **Bob Burt** who hand carved this beauty. Bob is contemplating building a scaled up version of his design for actual flight.

The two *Wankels* that **Bob Boumstein** brought to the meeting were both in pristine condition and manufactured in the 1970s. Bob is thinking one of these would be "cool" on an old timer airplane. Knowing Bob, these two engines are probably on the internet right now and will go for top dollar!

Tim Peters had his ARF *Big Stick* with the wing off to show the electronics consisting of an auto pilot, gyro, and the radio control. The *Big Stick* is Tim's platform for testing the auto pilot system.

The Western Flyers Arboretum



One of the most distinguishing features of our field is the collection of trees and bushes at the north end of the runway. They strike fear into the hearts of those who've never flown here before, and evoke midnight chain saw fantasies for those who have. To some, they are every bit as imposing as the trees with arms, legs and minds in Avatar. But just like in the movie, they can turn out to be the good guys.

The next time you're at the field, take a closer look at those trees. Have you ever noticed that each one is a different species? That's right. For whatever reason, they were planted in that place, with a clear purpose in mind. What some people call an arboretum; granted, a small one. Our University field hosts know that and treasure such things.

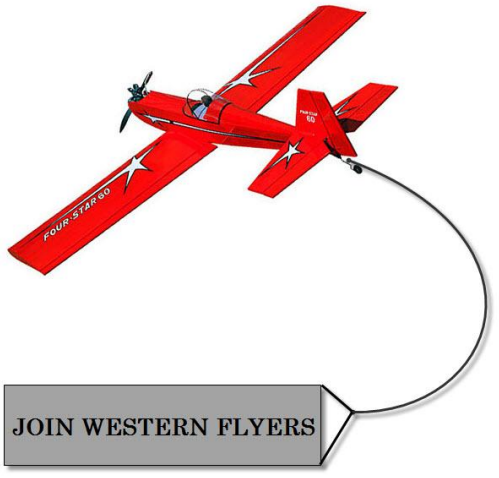
None the less, those trees are part of why our field is so appealing. Thanks to Rick and Terry and all the guys who have maintained our field over the years, the runway has been gradually moved south and oriented a bit more toward the east on the north end. Those big bad plane eating trees haven't had much to do lately, except what they are really good at: shade.

I've flown at Mead even before it was our field and back in the 80's, those trees provided a welcome respite from the heat for many a glider event, and a haven for the occasional pig roast. I think we would be well served to park a picnic table among them and enjoy the shade next summer. I would much rather fly at a field with a bit of character than at a paved parking lot.

Loren Blinde

REWARDS PROGRAM

Remember **Hobbytown's Reward Program**. With every purchase by a WF member, the club receives a credit for an amount equal to 1 percent of your purchase. Be sure to mention your Western Flyers affiliation when making a purchase at either Hobbytown location.



OCTOBER FLYING AT MEAD FIELD

Not a whole lot of flying or aircraft photos this issue. The month was free of events with weather cancelling the monthly Old Timers. Yet we managed to get some good flying in.











Cont…..

OCTOBER FLYING AT MEAD FIELD Cont.

~ 2012 Western R/C Flyers Event Schedule ~

2012 Tuesday Night Fun-Flys at Mead, *Every* Tuesday evening May 8th through September 6th!

(*Weather Permitting*)

January 2012

- Tuesday, Jan 3rd - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(*CAP meeting room, basement, far left of entrance*)

February 2012

- Tuesday, Feb 7th - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(*CAP meeting room, basement, far left of entrance*)

March 2012

- Tuesday, Mar 6th - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(*Downstairs meeting room – north end bldg*)

April 2012

- Tuesday, Apr 3rd - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(*Downstairs meeting room – north end bldg*)

May 2012

- Tuesday, May 8th - *Club Meeting* 7pm, at MEAD FIELD, bring a plane, open flying & food.
- **Saturday, May 19th** – *Old Timers Fun Fly with Glider Fly* - Starts at 9:00am with flying until 3:00pm.

June 2012

- Sunday, Jun 3rd – *Annual Spring Club Fun Fly* at Mead Field starting at 10:00am. Open flying.
- Tuesday, Jun 7th - *Club Meeting* 7pm, MEAD FIELD, bring a plane, open flying & food.
- **Saturday, June 16th** – *Old Timers Fun Fly with Glider Fly* - Starts at 9:00am with flying until 3:00pm.

July 2012

- **Tuesday, Jul 3rd** - *Club Meeting* 7pm, MEAD FIELD bring a plane, open flying.
- **Saturday, Jul 21st** - *Old-Timers Fun Fly with Glider Fly* - Starts at 9:00am with flying until 3:00pm.

August 2012

- **Tuesday, Aug 7th** - *Club Meeting* 7pm, MEAD FIELD a plane, open flying.
- **Saturday and Sunday, Aug 11 and/or 12th** – *Bud Hall Large Aircraft Fun Fly*. Aircraft restricted to IMAA criteria.. However, IMAA membership NOT required. Criteria 80" wingspan monoplane, 60" wingspan biplane, or a true ¼ scale aircraft. Landing fee $10.00 provides lunch both days and flying.
- **Saturday, Aug 18th** – *Old Timers Fun Fly with Glider Fly* - Starts at 9:00am with flying until 3:00pm.
- **Saturday, Aug 25th** - Don Neill Scale Contest. Multi-club Fun event hosted at Mead Field. Various classes. Rain date 26th.

September 2012

- **Sunday Sep 2nd** – The *5th Annual Fall Fun Fly and Swap Meet*. //**CANCELLED**// members, $5.00 for non-members. Swap meet setup after 9am. Open flying 10am through 3pm.
- **Tuesday, Sep 6th** - *Club Meeting* 7pm, MEAD FIELD - bring a plane, open flying.
- **Saturday, Sep 15th** – *Old Timers Fun Fly with Glider Fly* – Starts at 9:00am with flying until 3:00pm.

October 2012

- Tuesday, Oct 2nd - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
- **Saturday, Oct 6th** – *Old Timers Fun Fly with Glider Fly* – Starts at 9:00am with flying until 3:00pm.

November 2012

- Tuesday, Nov 6th - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
- Nominations taken for 2012 Officers

December 2012

- Tuesday, Dec 4th - *Club Meeting* 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
- 2012 Officer elections

Tailspin Newsletter
Western RC Flyers
Omaha, Nebraska

TO:

Western R/C Flyers Inc. 2013 Membership Application

Please print clearly!

Name:_____

Address:_____ Zip Code:_____

Evening Phone: _____Day Phone:_____

Email:_____

AMA Number:_____ IMAA Number:_____

Dues Paid: $_____

2013 Dues: $35 (*Renewals must be paid by **April 1***) New/Renewal:___New___Renewal___(Check One)

Sign Here:_____ Date_____

Subject to approval. AMA membership is required
Make Checks Payable to: Western R/C Flyers

Print this form and send check to WR/CF Treasurer:
Dean Copeland 15668 Fountain Hills Dr.. Omaha, Nebraska 68118