



Smoke Signals

Monthly Newsletter of the Meroke RC Club

April 2010

AMA Gold Leader Club #458 - established 1963

From the President

Ted Evangelatos

After a very long winter, the flying season is finally upon us. The last two weeks brought us spectacular weather and, despite the flooding of our flying field and parking lots, more and more flyers have already returned to flying.

While most days have been uneventful, we have already had some unfortunate incidents and mishaps at the field. Although not unexpected, these incidents always leave a bad taste in the mouth of the pilot - why did it happen to me?

Well, the reasons are the same as last year, and the year before:

- Untested batteries that sat around all winter
- "Rusty" pilot hands starting the season with advanced airplanes
- Crowded conditions at the field
- Not observing the safety rules

I will start with the most important cause of airplane crashes: the batteries. Many people do not bother to cycle them - they just charge up the plane and go. Then, when suddenly they have no control of the aircraft they realize that they should have paid more attention to their batteries.

Here are some simple guidelines to avoid this headache:

- TEST and CYCLE THE BATTERIES. If they hold less than 80% of their nominal capacity, do not use them. Batteries do go bad after 2-3 years, or even sooner if you continuously fast-charge them. I would rather spend another \$20-30 for a new pack than lose an airplane

- BREAK-IN that new pack you just bought. Yes, like engines, batteries need a break-in run also. It is called the "Formation Charge" and you should not omit it.

Nickel-Cadmium (NiCD) batteries need an initial SLOW charge of at least 16-20 hours at 1/10 the rated capacity. In other words, a 1500 ma battery should be charged at a

- maximum 150 ma. You can then discharge it SLOWLY at about 300 ma (maximum 500 ma).
- Nickel-Metal (NiMH) need THREE cycles of SLOW charging/discharging in order to reach their rated capacity. Follow the same rule as with Nicads, but do it 3 times. Otherwise, that 2500 ma battery you think you have onboard will actually hold A LOT less.

Continued on Page 3

Meroke Calendar

April 8 th	Club Meeting 8 PM - Show & Tell *****Note Date Change*****
April 15 th	Club Meeting 8 PM - Jet Demo - Chris Mantzaris
April 30 th & May 1 st May 23 rd	Scale Model Show & Contest at the American Airpower Museum Lufbery Aerodrome Naming Ceremony - Rain Date June 5 th
May 15 th	TAG Program
June 13 th	Open Fun Fly
August 28 th	Pattern Primer
September	Club Picnic - Date to be Determined

Meetings are held the first and third Thursday of each month at 8:00 PM at the First Presbyterian Church of Levittown located at 474 Wantagh Avenue. The church is about 1 mile north of Exit 28N on the Southern State Parkway. Additional information can be found on the club website - www.meroke.com.

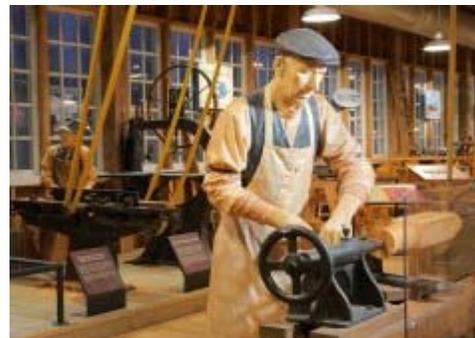
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Education	Charlie Lando	
Friends of Cedar Creek Building Program	George Carley	Ed Wiemann
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Webmaster	Ted Evangelatos	
Social (Coffee)	Irv Kreutel Herb Henery	Al Hammer
Raffles	Curtis Underdue	
Show and Tell	Ed Wiemann	
Video Librarian	Bob Cook	
Audio/Visual	Tom Cott	
Come Fly With Me	Charlie Lando	Dave Bell
Open Fly-In	Jaclyn Tavorario	
TAG Program	Charlie Lando	
Monthly Fun Fly Dinner	Jaclyn Tavorario	Gene Kolakowski
Picnic	Jaclyn Tavorario	
Contest Directors	Chris Man tzaris	
	Allen Berg	Tony Pollio
	Ernie Schack	Tom Scotto
Flight Instructors	Allen Berg	Ted Evangelatos
	Douglas Frie	Dan Gramenga
	Mark Klein	Gene Kolakowski
	Ken Mandel	Tim Murphy
	Tony Pollio	Mike Hagens*
	Bob Reynolds	Harvey Schwartz
	Bill Streb	Al Weiner
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Boeing's Museum of Flight Seattle, Washington

By Mike Elbers

Long before there was Bill Gates and Microsoft, Hi tech in Seattle was being created by another Bill. Bill Boeing was a son of a logging magnate and in 1910 was having a yacht built in



Inside the The Red Barn

Heath Shipyards. The shipyard went bankrupt and Bill Boeing was forced to buy the bankrupt boatyard for \$10 in order to keep the business running long enough to finish his yacht. Around the same time Bill Boeing caught the aviation bug. When the yacht was finished, Bill Boeing turned the boatbuilding business into an aircraft parts business. From 1916 to 1929 the boatbuilding shop now known as the "Red Barn" was the world headquarters for Boeing Aircraft. In 1983, the Red Barn was moved from its original sight on the Duwamish River to Boeing Field in Seattle to anchor the newly opened Museum of Flight. Today this museum is the largest private air and space museum in the world.

The Red Barn is my favorite part of this museum as all the tools used to fabricate wood structured airplanes in the 1910's and 1920's are featured. The



Inside the Museum

parts look like they belong in one big RC kit. All the power tools are powered by belts (waterwheel) rather than by electric. Many of the tools are classic wood boatbuilding tools. There are vintage airplane assembly drawings and contributions from aircraft manufacturers nationwide.

Continued on Page 4

Continued from Page 1

a. Discharge voltage: Most cyclers will ask for the discharge voltage rate. I would set them at 1.1 volts per cell, which represent the "real-world" flying conditions. The experts recommend 1.0 V per cell, but I would never fly my plane with the battery at 4.0 volts (or 5.0 V for the 5-cells) – would you? Under no circumstances you should let the discharge rate go below 0.8 Volts per cell, or you risk shorting the cells.

- Use a GOOD QUALITY fast charger at the field. A very experienced flyer recently lost a beautiful war-bird because of a falsely-peaked battery. Personally, I would never trust an expensive plane to a \$25-dollar fast charger.

Need to read more about batteries? Here are some links to web sites I use all the time. They also sell some of the best battery packs you can buy:

- NOBS batteries:
- http://www.hangtimes.com/rcbattery_faq.html
- Radical RC:
- <http://www.radicalrc.com/nimhfaq.html> and also
 - <http://www.radicalrc.com/Radical>Returns.html>

As for the other causes of incidents at the field:

- "RUSTY PILOT HANDS": Frankly speaking, flying is NOT like riding a bike. We are just coming out of a 4-month hiatus. The experienced pilot will not start the first flights with an extremely aerobatic airplane, a 3-D machine or a heavy war-bird. An easy-going, not-too-fast low wing airframe will do fine until these rusty fingers get back in flying shape.
- FIELD RULES: The rules are there for our safety, and that of others.
 - o Fly the pattern = less chances of midair collisions
 - o Landings have priority over takeoffs
 - o "Dead-stick" landings have priority over everything else

- WATCH THOSE PROPS: A good colleague and experienced pilot got seriously injured recently from a spinning prop. Ladies and gentlemen, let us all be reminded that we do not play with toys at the Aerodrome. Our motors (glow, gas, or electric) spin propellers at an average of 10,000 rpms. These props are sharp as razor blades and can cause serious harm to fingers, palms, arms, etc. Just be aware of them at all times, and keep a safe distance.

Keep the above in mind, and have yourselves a great 2010 flying season. See you at the field!



Lufbery Aerodrome Naming Ceremony

**Sunday - May 23rd at 11:00 AM at
Cedar Creek Park Aerodrome
(raindate - Saturday - June 5th)**

Everyone is Invited



This museum really highlights the development of the airline industry. There are many vintage uniforms and other airline paraphernalia. The museum includes two Boeing propeller airliners, a Lockheed Constellation 1049G Super Constellation, a 707 (First Jet Air Force One), two 727's (1,832 built), the first 737 ever built (over 8,000 built) and the first 747 ever built.

The museum also chronicles the heavy bombers built by Boeing. There is a B-17F Flying Fortress, a B-29 Superfortress, a B-47 Stratojet and a B52G Stratofortress (still in use by the USAF). Long Island companies are represented by a Grumman A-6E Intruder, Grumman F-14A Tomcat, Grumman F-9J Cougar, and a Republic P-47D Thunderbolt. The museum features some full motion simulators which model the P-51 and the F-18 Hornet. Unfortunately the line was so long I was unable to try them out. I also was not able to brave the lines to sit in the cockpit of an SR-71 Blackbird and a F/A-18 Hornet. The website mentions "Tip to Tail tours" where one airplane is given a scheduled detailed tour. The Boeing field is still an active field with many Boeing factory buildings will being used. While most of the aircraft production has switch to Payne Field in Everett, Washington (2 hours away), there is still lots of finish



work (painting/ outfitting) completed in Seattle. During my visit a few years ago, Boeing was conducted landing and takeoff testing on the first Boeing 777. The Boeing restoration facility is at the Payne Field in Everett, Washington. At one time the 747 assembly building was the largest building in the world. Boeing does have separate tours of the assembly plant but Everett is a long trip from Seattle.

If you ever get to visit the Museum of Flight's store, bring lots of money. There are lots of goodies. Even the satellite store at the SEATAC airport seems to get a chunk of my money each time I visit. For further information you can access the museum's website <http://www.museumofflight.org>

Flight Techniques

Maintaining Straight Lines

Proficient pilots use small bumps of aileron to keep the wings level in order to maintain straight lines. Bumps are also used to bank the wings slightly and cause an airplane to drift slightly to the left or to the right. As long as the bumps are not too large or held in, the airplane won't lose altitude after a bump so there is no need for elevator when making small course changes. If the airplane features a symmetrical airfoil wing, the course change after an aileron bump will tend to be much more gradual. To affect a more deliberate course change with a symmetrical wing plane, the pilot must also pull a little up-elevator and, in effect, perform a mini procedure turn.

Because the bump is small, it must be applied and returned to neutral smoothly to give the plane time to respond. Quickly jabbing the aileron will likely produce little or no response. Keep in mind that the slight wing bank and gradual course change after a smooth, small bump may not be immediately obvious. Thus, you must pause for a few moments after each bump to be certain whether another bump is needed. Remember, overcontrolling is usually not caused by aggressive inputs at first, but is the result of holding an input in too long and occurs most often when pilots hold in their inputs waiting to see an obvious reaction of the plane. Therefore, it's better to make two separate bumps, if necessary, rather than hold in the aileron! Bumping the rudder on airplanes without ailerons works just as well, but rudder bumps must be applied very smoothly to have the desired effect. The bump technique works great for gradual course adjustments up to 20 to 30 degrees. A larger course change will require a deliberate turn involving aileron and elevator.

As pilots (like drivers) become more relaxed, they start noticing deviations off the intended path the instant they occur, thus the corresponding bumps become so small that anyone watching won't even be able to tell that corrections are being made. That's one of the main reasons why really good pilots make flying look so easy.

April Birthdays

- 11 *Bob Reynolds*
- 13 *Curtis Underdue*
- 18 *Mark Klein*
- 26 *Ted Evangelatos*
- 29 *Frank LaSala*



On Board Glow Drivers

Nelson Ramos

On our last show and tell meeting March 4th, I demonstrated a new on board glow system. I was asked to write an article for the Smoke Signal by Russ. First the old standard way of placing the glow plug igniter on the glow plug and turning the engine is still the cheapest and most reliable way to start your engine

If your new plane has a cowl and the engine is inverted and you're searching for a new way to start your engine than two options are available. The first option is the glow remote battery jack. This allows the user to insert the battery igniter somewhere on the model and is also safe. The second option is the on board igniter. For this article I will discuss the on board system

I have three models and each uses a different on board glow igniter system. On my Bucker Jungmann bi-plane with an OS 108- 2 stoke engine, I installed the Electro Dynamic model ERD-103 GlowLite system. The system is programmed on my throttle channel. I used a Y-harness this allows the use of one channel to control two servos. I insert one end of the harness into the third channel of the receiver, the second lead to throttle servo, the third lead to the on board glow system. The ERD -103 system needs some work, if you have some soldering experience it makes things easy. A glow battery, wires, and information from Electro Dynamic web site are require if you need more information you can always ask me.



I have this system adjusted with the idle down to ignite the glow plug the engine gets turn with the electric starter or a chicken stick.

After the engine is running, I advance the throttle pass ¼ at this point the system is no longer energize with 1.2 volts to the glow plug. This system will allow a lower RPM for landing, every time the throttle stick is at and below

¼ the glow is energize. The adjustment can be higher, this is set by the user a little red LED will light when the glow plug is energize. It also comes with a servo reversal switch.

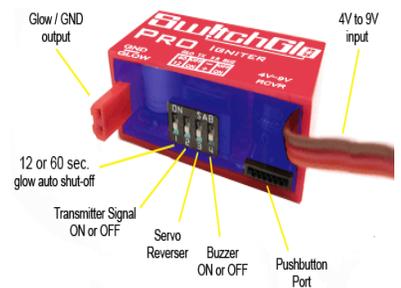
Now for the next system, on my Superchipmunk I installed a four stoke 150 Saito engine. (Nice engine) and I'm using the McDaniel from Sonic Tronics This system came with the battery and charger



Sonic Tronics states the battery will last 1-½ hours. (That's a lot of flying enough to give me a neck pain)

This system operates the same as the EDR but I found is easier to install, due to the fact the battery and system are all in one. When I start the Saito the idle is very low and steady. My Super Chipmunk was plan built and painted I invested a lot of time not to mention the cost. It's nice to know when its time to land the Saito has a reliable low idle and it won't flame out. These two systems can be install with a four-channel transmitter. Due to the fact a Y- harness is used for throttle servo and glow system.

Now for the third system, Switchglo I installed this in my new AT6-Texan with an OS 91 II 4stoke engine. I installed the engine inverted; it starts easy with a sweet low sound (I like that low sound). I didn't use the Y- harness; instead the third channel only operates the throttle servo. The Super Cap 9 transmitter I'm using is program with the third channel as master channel and the 8th channel as slave. However the Switchglo systems give you several options, the Y-Harness can be use or a toggle switch on your transmitter, for instance the gear channel or any channel can operate this system or the optional switch from the supplier, if no channels are available.



This system has more features than the two-glow system above. It has a time issue the glow plug can be energize for twelve or sixty seconds. If more time is needed just toggle off and on. It also has a steady beeping noise to let you know the glow plug is hot and doubles as a plane finder. The power for the glow plug is provided from my on board receiver pack. I installed a 6-volt, 2000 mah pack on this model. This unit operates between 4 and 9 volts. With all three systems it won't let me start the engine if the throttle stick is above ¼, this prevents what is known a hot start.

There are other systems on the market, I know of two more the Sullivan and RAM on board glow system.

Then there is the DYI system.
WHATS THAT??



This system is piecing it all together. Go to Radio Shack purchase a micro lever switch, wires, 1.2 glow battery, glow plug cap harness. This is an old system and it works very well. You just have to place the micro switch strategically so that when the throttle servo arm is at idle it triggers the switch this will energize the glow plug and as you advance the stick it stop the juice for flowing. For more information on these glow plug on board igniter system log onto the suppliers web site, or see me at the meeting.



Inverted Glow Engine

by Nelson Ramos

Last month on a nice Sunday at the aerodrome I had a conversation with our fellow Merokes about inverted engines. Some guys complain of having the same two problems with their inverted engines.

First, when starting the engine, they claim of hydraulic lock. (Too much fuel in the crankcase.) This can cause engine damage if using an electric starter.

The second problem is the engine won't hold an idle; it loads up and quits.

After the conversation it came to my attention that these experienced flyers never acquired the correct information when installing an inverted engine. When I asked how the fuel line enters the carburetor inlet, this is what was mentioned: "The fuel line went directly from the tank into the carburetor." WRONG!

This is it! Before inserting the glow fuel line into the carburetor inlet first raise the line above the tank line. This stops the siphoning effect. Second, it is recommended that an on-board glow plug system be utilized. With an on-board system the fuel won't extinguish the glow plug, keeping it hot and making it possible to lower the idle. If you like the sweet sound of a four stroke idling, then I recommend this system.

CHICKEN WINGS™



BY MICHAEL AND STEFAN STRASSER

