Smoke Signals

Monthly Newsletter of the Meroke RC Club **August 2007**

AMA Club #458 - established 1963

Maiden Flight of Lenny's A-20

I early 1943, at Will Rogers Airfield in Oklahoma City, the 416th Bomb Group was formed. Final building of the Group took place at Lake Charles, Louisiana, Laurel, Mississippi, and Camp Shanks, New York prior to its deployment to Europe. Under the command of Colonel Harold Mace, the four (4) squadrons of A-20 Havocs of Bomb Group 416, was then assigned to the 9th Air Force, settled at Wethersfield, about 30 miles northeast of London.

It was early March 1944 when the 416 saw its first action bombing German military targets in Northern France. The Group suffered heavy losses from ground fire when they provided support for the Allied landing on D-Day. After D-Day, the Group was dedicated to choking-off the German's supply lines to the battle front. On August 6th, 1944 they destroyed the last bridge over the Seine River, trapping some 200,000 German troops. For this, they received the Distinguished Unit Citation and a commendation from General Patton. The Group relocated their base to Northern France and flew 285 missions with outstanding results till the end of the war.

60 years later, fate brought together a veteran of Bomb Group 416 and Lenny Schroeder. At the RC Airplane Exposition at the Cradle of Aviation just over a year ago, Lenny met Dave Peyton who served with the Group as a

(Continued on Page 3)

Meroke Calendar

August 2nd	Club Meeting 8 PM
August 15th	Field Controllers Meeting 7:30 PM at Levittown Hall
August 16th	Club Meeting 8 PM Ilan Nahoom – Discussion of RC Helicopters
August 19th	Come Fly with Us
August 26th	Monthly Fun Flies
September 6th	Club Meeting 8 PM
September 7th to 9th	Radio Control Airplanes at Rhinebeck
September 20th	Club Meeting 8 PM Frank Granelli – Better piloting through trimming & aerobatic flying
September 23rd	Monthly Fun Flies
October 4th	Club Meeting 8 PM
October 18th	Club Meeting 8 PM Steven Anthony – NoBS Batteries
October 29th	Monthly Fun Flies

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.merokes.com.

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Programs	Phil Friedensohn	
Education	Charlie Lando	
Friends of Cedar Creek	Charlie Meyer	
Building Program	Charlie Lando	Ernie Schack
Archivists	Ron Berg	Stan Blum
Webmaster	Ted Evangelatos	
Social (Coffee)	Irv Kreutel	Al Hammer
Raffles	Mike Lobozza	Nick Lovisolo
Show and Tell	Al Cagan	
Video Librarian	Lou Pinto	
Come Fly With Me	Mark Klein	Intro Pilots
Open Fly-In	Ernie Schack	John De Sena
	Tony Pollio	
Monthly Fun Fly	Bob Maran	Gene Kolakowski
One Fly	Tim Murphy	Mark Klein
		Al Weiner
Picnic/Dinner	Bob Reynolds	Dave Bell
Contest Directors	Allen Berg	John De Sena
	Tony Pollio	Ernie Schack
	Tom Scotto	
Flight Instructors	Allen Berg	John DeSena
	Dan Gramenga	Douglas Frie
	Mark Klein	Gene Kolakowski
	Ken Mandel	Tim Murphy
	Tony Pollio	Rick Porqueddu
	Bob Reynolds	Bill Streb
	Ernie Schack	Al Weiner

Editorial

As you have noticed very quickly, the entire format of Smoke Signals has changed. In eliminating a number of superfluous items, such as the cover, the members contact and back pages, I am actually able to have more room for articles in two (2) less pages. By eliminating high overhead clipart and optimizing photos, the newsletter has been reduced in size to around 1 MegaByte. This will allow members to more easily download the newsletter from our Merokes Website, even with a dial-up connection.

Beginning with this issue, I will once again email the newsletter to members who have valid email addresses listed with me. The members updated contact listing will be emailed as a separate file each month after a month when we have elected new members into the Merokes.

Hope you continue enjoying Smoke Signals in its new format and please – let me know what you think.

Russell Rhine

Letters to the Editor

Actually this is an email that Phil Friedensohn received after the July lecture by Dean Pappas. As Bob stated, too bad so few members attended such a great lecture.

Hi Phil,

Thanks for another wonderful meeting. I was sad to see how few guys were there....maybe lots on vacation. I was really impressed at how much Dean (Pappas) knows and understands about engines. He put together a lot of things I had heard many times but was never really doing them correctly-like setting the low speed needle. I also liked the information about plugs. When he answered a question, it wasn't with just a simple, general, routine common answer, as he gave the why's and how's with depth and conviction. Made it really interesting and useful! Anyway, thanks for running a great program.

Great job!
Bob (Maran)

President's News

This month, the Merokes will sponsor our "Come Fly With Us" event on Sunday, August 19th with the goal of introducing the general public to the joys of the radio control hobby. The AMA was kind enough to award us the "Take Off and Grow" (TAG) grant so let's get out there and promote our hobby to your friends, relatives and youth organizations. Our Intro Pilots are gearing up for an intensive day of flying, but we still need volunteers to ensure a smooth running experience for all attending. Please see, email or call Dave Bell to let him know that you are available for the various positions.

Ernie and Charlie have once again volunteered to host their builders' club at the church this winter. Many ideas have been talked about including an ARF assembly line, a total scratch build project, a build along kit project and all the aforementioned together in one group. The club will be free to members and possibly newcomers too. Please contact Ernie for particulars and to express your commitment to the project. We need a minimum number of participants to make this a viable offering. The competition has increased in our Happy Fly fun fly due to the hard work and perseverance of Bob Maran and Gene Kolakowski. See the results of our latest competition elsewhere in the newsletter. Good work guys!

If you are a novice flyer, please be reminded that our instructors are here to take you up, but an appointment is recommended as this is the summer and many obligations change - limiting availability. Please call your instructor prior to showing up at the field, so you will not be disappointed. Of course our club is well known for our outgoing members so chances are that you will have a substitute flyer willing to fly with you, but it is best to check with your assigned instructor first. We have many interesting programs in the upcoming months, so please mark your calendars to include our lecture series (thanks Phil) and our awards dinner in December.

Mark Klein

Congratulations to our New Members

Brian Cashin, Benjamin Corbett, Alex Shapiro,

Ken Roseboom, and Robert Albano

Maiden Flight of Lenny's A-20 (from Page 1)

Rear Gunner with the rank of Staff Sergeant. Dave, a retired shop teacher in Levittown, had always wanted to build a scale model of the plane he served on, and bought plans for the A-20 Havoc. Lenny developed a quick friendship with Dave and took on the task of building the airplane that Dave had started.

An extremely difficult model to build, Lenny managed to complete the project resulting in a beautiful crafted replica of the A-20 Havoc. Now was the time to see how it handled in the air and Lenny called upon Bill Streb to be at the controls during its maiden flight.

Weather could not have been more perfect on the morning of July 14th as Meroke members, and family and friends of both Lenny and Dave showed up early in the morning to attend this historical occasion.

After lengthy pre-flight preparations, Bill stepped to the flight-line and started maneuvering the plane, nicknamed "Baby Doll" after Dave's late wife, straight down Runway 1. The plane rotated quickly, started a right bank, but then developed problems. Bill tried everything, but the plane went out of his control and crashed in the growth by the water. There was extensive damage to the plane, but no matter what it takes; Lenny is determined to completely rebuild the model.

It was very moving to those at the field that day to see the great friendship that developed between Lenny and Dave.

Ralph Conte, one of the original Bombardier-Navigators assigned to Bomb Group 416 and a highly decorated veteran of 65 missions wrote a great book about the group. "Attack Bombers We Need You!" was published in 2001 and is available at Amazon.Com.

Ask Dr. Phil

Dear Dr. Phil,

Does it matter what size fuel tank I use with my engine? I would like to increase my flying time by adding a larger fuel tank.

Thanks,

Joey Smart

Hi Joey,

Three forces act on fuel flow to the engine. They are gravity, head pressure and muffler pressure. The fuel tank's size depends on the engine's displacement. The .25 cu. in.-displacement engines use 4- to 6-ounce tanks, .40-size engines use 8- to 11-ounce tanks, and .60-size engines work best with 12- to 16-ounce tanks. Size does matter with fuel tanks. Why can't we just put a 16-ounce tank behind a .25 cu. in. engine and fly for an hour? Because of something called "head pressure," which is one of the forces pushing fuel into the engine. The weight of the fuel itself is acting to push it through the small opening, into the engine. The larger the tank size, the heavier the fuel is and the greater the force pushing it out of the tank. In the .25-engine scenario, the needle valves would have to be set extremely "lean" to compensate for the full tank's high head pressure. As the tank empties during flight, the head pressure drops. Approximately halfway into the flight, the pressure gets so low that the mixture settings, made with a full tank, are too lean. The engine dies in the next vertical climb or high-gravity ("high-G") maneuver. The initial mixtures could be set extra rich to compensate, but then the first half of the flight would be underpowered, if the aircraft could even take-off.

Hi Dr. Phil,

How should I store my 2 and 4 stroke engines after a day flying at the field.

Regards,

I. Lovett

There are a couple of basic steps to address with most 2 and 4 stroke engines. Empty any fuel from the fuel tank. Run the engine to burn off any remaining fuel. Remove the glow plug and turn the engine over a couple of times to spit any remaining fuel from the engine. Put a few drops of after run oil into the head and carburetor. Use Mobil 1 Synthetic oil, as it is highly recommended. Reinstall your glow plug and crank the engine over a number of times to distribute the oil. Remember, we fly at the ocean's edge. The salt air will rust the engine bearings. Use after run oil.

See you at the field,

Dr. Phil

PRODUCT REVIEW - Loc8tor

This is a product that certainly would be extremely valuable to those of us who fly at Cedar Creek. Not specifically made for our hobby, it can really be a major asset to us fliers. By blending the best of old and new technology Loc8tor provides the first affordable personal homing device of its kind.

Loc8tor is designed to be exceptionally easy to use and helps avoid that feeling of frustration when you lose one of your airplanes which ended up in the heavy brush. Loc8tor's versatility means it can be used in almost any situation by simply installing one of the supplied tags (which weighs a mere 5 grams) in your airplane.

Get within 600 feet of your plane and Loc8tor, using the handheld locator (as shown above) provides guidance to within a few inches of your plane. It also provides vertical direction on the LCD screen (for those planes that land in a high tree).

More detail information on the Loc8tor product, as well as pricing can be found on the company's website at www.loc8torus.com, or call the company at 215-579-0334.

Meroke Lecture Series
Dean Pappas – Tune Your Engines

The Meroke 2007 Lecture Series is well into its second half of the season. The July lecture, "Gentlemen tune your engines" hosted by Dean Pappas - Noted FAI Class Pattern pilot, builder/designer was a rousing success.

The day began with very high humidity and threatening skies. Dean was invited out for the day and he was scheduled to show us some flying demonstrations at Cedar Creek. But as usual, a Thursday afternoon commute from New Jersey to Cedar Creek Park was riddled with traffic jams and he was going to arrive late. We all waited as conditions at the field worsened. The wind was blowing, the sky was gray and we were waiting for a lighting strike at any time. And then, as if nature knew you can't keep a good Meroke down, and as Dean and his son Zack entered the field, the sun appeared and the winds calmed down.

After all the introductions where made, those of us who stayed, were treated to our own personal engine tune-ups. Every engine that Dean examined needed some type of adjustment. Not only did he tune the engines, but he also discussed the different fuels and glow plugs that could affect the engine. Dean also test flew Ron Berg's Funtana and made some very important observations about trimming out the control services, and it was most enlightening. Even though it was getting late, Dean did pull out his plane from his car to show us how real flying is done. Do you believe his plane had an electric power plant? He is smart, no clean up!

Later that night, Dean entertained us with an in-depth discussion on the care and feeding of our engines. This included the proper way to break in and start engines, fuel usage, choosing the correct glow plugs, manufacturing short comings, storing engines etc. As always, the time flew by and we still had many more questions than time. It was a great day for all those who attended the events.

Dean will be writing a bi-monthly column for Model Airplane News titled - "If it flies" - starting with the August Issue. It is good reading and if you pay attention, you might learn something. If you have any questions to ask Dean, about any topic related to our hobby, you can reach him at DeanF3AF2B@pappasfamily.net.

A big thank you goes to Dean Pappas and his son Zack who came up from New Jersey on a Thursday to entertain us so pleasantly. Remember, the 2007 Lecture Series is held on the second meeting of each month. Anyone who is interested in these lectures, club member or not, is invited to attend. A list of events has been posted on the bulletin board on runway 1 at the field and on our website WWW.MEROKE.COM. Our next lecture will be held on August 16, 2007, hosted by Ilan Nahoom - resident Cedar Creek Helicopter expert. The subject, "So that's how you fly that contraption".

LET'S SUPPORT OUR LECTURES

Our thanks as always, goes to Phil Friedensohn, our lecture coordinator, who makes these lectures possible.

Video Library

Our Video Librarian – Lou Pinto – has added a new title to the Meroke Video Library:

#D-27 F4-U Corsair (Roaring Glory Warbirds)

Take advantage of our video library, there are some very good videos to borrow and watch.

Come Fly with Us

As Mark stated in his column this month, on August 19th we will be hosting our first "Come Fly with Us" event. To make this event successful – keeping up with the Merokes tradition of hosting great events – we need the assistance of members. Please contact Dave Bell and volunteer your services.

If you know of anyone – of any age – who is interested in trying to fly one of the club's trainers that day, tell them to show up on the 19th.

How to Measure Your Electrics Power

As many members are starting to venture into the world of electrics, this is an extremely interesting article.

There are many variables that can be adjusted when configuring an electric power system, and the choices are growing given the avalanche of new motors and batteries coming to market. One tool that will help any modeler sort out these choices is the Astro Flight Whattmeter.

When used in conjunction with a tachometer, the Whattmeter can reveal the relative efficiencies of different motors when compared with the same propeller at the same rpm (if one motor consumes more power at a given rpm, it is not as efficient as another that consumes less power). You can also test different brands of propellers with the same nominal pitch and diameter to see if more power is consumed by one than another at a given rpm. And you can test larger or smaller props to see which produce the level of current your motor was designed to handle.

One of the most interesting statistics is "power loading," defined here as the "watts per pound" consumed by the model in a full throttle, static bench test. The power loadings of models reviewed in this magazine have ranged from 22W/lb. to as high as 200W/lb. Gentle flying park flyers tend to be at the lower end of this scale, and aerobatic 3D aircraft tend to cluster toward the higher end.

A way to easily measure and compare power parameters of different aircraft and system components has long been very desirable. Electric flight pioneer Bob Boucher of Astro Flight faced these same issues decades ago, and, lucky for the rest of us, did something about it. Read on for tips on using the Astro Whattmeter and its sibling, the Micro Meter.

Astro Flight offers two multi function digital meters to help us set up and monitor our electric models. These allow you to see the volts, watts and amps measured by the meter during a test of an electric motor. They also report the milliamp-hours that have flowed through the meter during any given test.

COOL TOOLS

The Astro Model 100 Micro Meter and 101 Super Whattmeter (both retail for $59.95) look very similar; the main difference is their power measuring and reporting capability. The 100 Micro Meter is designed to monitor power systems with currents up to 15 amps, typical of smaller models like park flyers. The 101 Super Whattmeter will handle up to 75 amps for larger models. The Micro Meter measures in smaller increments (e.g., 1/100 volt, compared to the Whattmeter's 1/10 volt).

GETTING THE NUMBERS

The first step to measure the power is to make sure everything is plugged in and functioning (and if you are at the flying field, that you have the proper frequency pin). Turn on your transmitter, then the model. Make sure that the throttle responds to the transmitter, then return the throttle to the full off position. Now that you know the system runs, and that it is set to off for safety, you can hook up the meter.

Disconnect the motor battery and plug it into the source leads of the meter (the right side of the meter is labeled "source"). At this point the meter will display the voltage of your pack, but no current. Now make sure the model is secured and nothing is near the prop, then plug the load leads into the motor's speed control.

Slowly advance the throttle stick to full. Notice first that the amps will climb from zero. Because of the load, the voltage will be slightly lower than with the throttle off. Observe the performance of the plane and write down the amps, volts and watts at 15 seconds and 30 seconds, then pull the throttle back to zero, turn off the airplane radio and then the transmitter. We recommend looking at the power loading 30 seconds into the static run to get past the initial power spike. The power loading at 30 seconds, for any battery type, is more representative of average input power levels than the performance when you first throttle up.

HOW WILL IT FLY?

You can get a good idea of in-flight performance from the numbers. While results can be influenced by other factors such as wing loading and general efficiency of the airframe, watts per pound (W/lb.) is a common and worthwhile number used for predicting and comparing performance. We also use watts per ounce here at *Fly RC*, since a pound is a coarse unit for models that might only weigh two or three ounces. Take the watts reading displayed at 30 seconds and divide it by the weight of the model in ounces. This gives you the power loading in watts per ounce. Multiply that by 16 to get watts per pound.

The generally accepted power level for basic sport flying with some mild aerobatics is around 50 W/lb. (3.1 W/oz.). More sedate flyers with low wing loadings can fly well with as little as 30 W/lb. (1.9 W/oz.), while aerobatic models or warbirds often have power loadings of 75 W/lb. (4.7 W/oz.) or more. Models set up for hovering and 3D maneuvering want all the power you can get. 100-150 W/lb. (6.3-9.4 W/oz.) are typical numbers for these models.

HOW TO PREDICT DURATION

To predict flight duration, start with the current draw in amps at full power and the battery capacity in amp hours (Ah). Let's assume a 10 amp draw and a 700mAh battery. A 700mAh battery has .7Ah of capacity.

The easiest way to juggle the numbers is to convert the amp-hours to amp-minutes. Multiply .7Ah X 60 to get 42 amp-minutes. A 10-amp draw (max power) will result in a duration of 4.2 minutes (42 amp-minutes/10 amps). A little over four minutes isn't that long, but most models aren't flown at full throttle from takeoff to touchdown. If you know you can fly your model at half throttle, you can expect it will stay aloft for about eight minutes at that throttle setting. If this isn't going to cut it, you'll want a battery with a larger capacity.

You can also derive actual in-flight power consumption from observed performance. With the above example, let's say you actually average fifteen-minute flights before the BEC circuit on your speed control cuts motor power. If you divide 42 amp-minutes by 15 minutes, you get an average in-flight current draw of just 2.8 amps.

These numbers really start to become interesting as you change parameters and compare different systems. We have seen some 7.4V 2S Li-Poly batteries deliver higher wattage to the motor than some 7-cell 8.4V NiMH batteries, when, under power, both batteries exhibit comparable voltage. This may suggest lower internal resistance in the Li-Poly batteries. There are brushless motors that increase climbing power compared to a brushed motor, and that also increase duration when flown at lower throttle levels. If you want to experiment, the sky is the limit. You can change the prop, add or remove cells in the battery pack, or even change motors.

CONCLUSION

With an Astro Flight meter in your flight box, you will have a good idea of the performance and duration you can expect from a new model. You will also be able to compare your own numbers with those reported in electric reviews in RC magazines. These meters will better help you understand your models, giving you more quality flying time with airplanes that perform the way you want them to.

Battery Corner

Q: What's the big deal about 'Impedance'? What is it and what does it do?

A: Most folks react to the 'capacity' rating alone as being the biggest part of their decision in selecting a pack for their airplanes. This can lead to big trouble on board the aircraft. Just as cells are evaluated for capacity, in high load applications you need to take into consideration what the cells voltage performance will be when loads are applied. All battery technologies react to servo loads with a voltage drop while the load is applied. It's really very simple, the higher the cells impedance rating, the greater the voltage drop will be while servo loads are applied. Rule of Thumb for cell selection: Impedance Ratings are like a Golf Score. The lower the impedance is, the better it is. Aircraft in aerobatic environments employing digital or high torque servos should carry a cell impedance score of 10 milli-ohms or less. Some of the battery packs in larger airplanes have an impedance of 20 milli-ohms. However, the battery packs are normally duplicated and connected in parallel, resulting in a final impedance of 10 milli-ohms for the two (2) connected packs.

One Fly Results – July 22nd

It is always interesting to see what happens when one parameter of an event is changed. It wasn't surprising that so many participants suffered DQ's when we altered the events from 30 seconds to 20 seconds. As a result, we were only able to award two prizes in some of the events. That's what happens when you get to greedy, looking for that extra loop!

The big winner was none other than Bob Maran who placed in all 3 events, including first place in three big loops in 20 seconds, and loop with a roll, and a second place finish in the loop/roll go around event. Then there is the Boll family, who dominated the three loops with Rich taking second and Patrick taking third (and he just earned his blue card!). Ben Corbett captured first place in the loop/roll go around with Rich Boll taking second. Special thanks to Jerry Koenig and Frank McGrath who officiated.

FOR SALE!

Bill Streb has a large assortment of kits and ARFs for sale. Give Bill a call at 516-378-4872.

Call Bob Weber at 631-608-8209 for a V-MAR Extra 300L ARF, with a JR F400 radio and an MDS .58 engine. All items are NEW and only for $325 (will break down and sell items individually).

Charlie Folz (631-587-7471, cfolz@suffolk.lib.ny.us) has a Sig 72" Sundancer Biplane ARF (new in box) for sale. Requires a 3.2 gas engine. Price - $325.

A-20 Havoc Pre-flight

Getting the A-20 Havoc airplane ready for its maiden flight on the morning of July 14th is the builder - Lenny Schroeder, crew chief - Gunter Doell and pilot - Bill Streb.

Magazines Wanted

We need back copies of RC model magazines to hand out at the "Come Fly with Us" event. Please bring copies to the next meetings.

August Birthdays

3	Nicholas Guiffre
17	Al Rubinson
21	Elias Miranda
23	Larry Rosenthal