

MONTHLY NEWSLETTER of the MADISON AREA RADIO CONTROL SOCIETY
MADISON, WISCONSIN AMA charter #665

MARCS SPARKS

www.marcswi.org

COME FLY WITH US...

MARCS meetings are held on the first Thursday of each month at:
MADISON LABOR TEMPLE
602-South Park St., Madison
At: 7:00 pm in room #201B

Visitors are always welcome.
We think we have a great 'HOBBY' and we invite you to come and see.... and CONSIDER JOINING US.

Officers:

President: **Brad Witt**.....bwitt@chorus.net
Vice Pres: **Harley Nelson**..lhnelson@verizon.net
Secretary: **Don Weigt**....d_weigt@sbcglobal.net
Treasurer: **Ed McDonald**.....rcace@charter.net

Membership Information:

Ed McDonald Phone: 249-0734

Flight Instruction Coordinator:

Ozzie Johnson Phone: 274-0474

Web Master: **Jeff Alexander**

webmaster@marcswi.org

Club Web Site:

www.marcswi.org

The Marcs Web Site contains links to:

WAR BIRDS and ELECTRIC FLYERS

SPECIAL INTEREST GROUPS

Editor: **John Steen Sr.** steensr@yahoo.com

Minutes of the:

MARCS General Membership meeting, May 3, 2007

Submitted by Don Weigt, Secretary

The meeting was called to order at 7:02 PM by President **Brad Witt**.

There were 32 people in attendance.

Secretary's Report: The minutes of the April General Membership meeting were approved as published in SPARKS.

Treasurer's Report: The field contract was signed and has been paid for 2007. We had 92 members at the end of April, compared to 103 in 2006. A copy of the financial report was available for review.

There were no visitors.

One new member was introduced; Ernest (Ernie) Hailey. Welcome, Ernie!

We gave a round of applause for **Dave Rush's** great job with the **MARCS** Banquet. Thirty six attended. The food was good, and there wasn't a lot of noise from other groups. A few who had signed up couldn't attend, but it worked out OK.

Harley Nelson received a round of applause for the great glass flowers he made that were prizes for some lucky wives.

Frank Baker received a round of applause and a trophy in honor of his 52 years of service to the hobby and all his published plans.

Harley Nelson reported on the **Field Work Day**. The crew was one of the best ever. Everyone worked, knew what to do, and pitched in. Work done included



bridge repair, fence repair, and shed repair and painting of both.

The first adopt-a-highway pickup was also done by about seven people.

Jerry Buss provided the great lunch.

There was a round of applause to thank **Jodi Rush** for the excellent desserts.

Wendell Hottman reported on plans for the Float Fly. The member survey showed a preference for having just donuts and coffee, no noon meal. The event will be for electrics only until about 9 A.M., then glow and gas, too.

The Screaming Eagles are having a Fun Fly and Swap Meet on Sunday, May 20th.

Runway:

Brad Witt presented a large drawing of the field and proposed runway. **Dave Rush** explained the latest version moves the runway out to 30 feet from the Flight-Line fence (was 20 feet.) The Flight-Line fence would be made taller at the existing pilot boxes to better protect the pilots and spotters. The goal is to put it in by about June 1.

Ray Shane and the Parks Superintendent have to approve it for the City.

There was lively discussion about the details.

- (A) Improve the west end approach?
- (B) Fence around the runway for the winter to protect it from snowmobiles? If so, who would decide when to put up the fence? (The Board.)
- (C) Add a north-south leg for crosswind takeoffs to the North? (Not now.)
- (D) Who fixes damage? The person who did it?
- (E) Bury the edge for a smooth transition? Other clubs we've visited have not. Let's not make this harder than necessary. The runway at Owatonna is flat and has a nice flush smooth transition. Cedar Falls is expanding their field to 60 x 300 feet for the big gas planes.
- (F) Jets will need off-runway run-up pads so they don't melt the runway fabric, maybe concrete or patio paving blocks?

Runway could be installed in a couple of weeks.

Raffle:

Gallon of glow fuel: **Brad Witt**.

Magnum .46 glow engine: **Harley Nelson**.

Show and Tell: **Bob Geimer** showed a glow powered Rutan Quickie scale model built from plans.

Interesting model, nicely done!

The meeting was adjourned at 8:20 P.M.

BOARD of DIRECTORS

meetings

These meetings will be continued to be held on the same evening as the **MARCS** General Membership meeting, (first Thursday of the month) after its adjournment.

General Membership meeting: 7:00 / 9:00 pm

Board of Directors meeting: 9:00 / 10:00pm

Both meeting are held in room: 201-B. Club members are welcome to stay and observe the Board meeting. A Club member may have the floor by being recognized by the Chairperson. Input or opinions must be brief and to the point as the overall meeting time is limited.

AGENDA: June-7, 2007

- New Runway**
- Sunday Flying**
- New Sign**
- Club owned Generator**
- Guest comments**

\$ REWARD OFFERED \$

On Wednesday afternoon, May-16, I accidentally left my "Anemometer" (hand held wind meter) at our flying field. I returned the next day, hoping to retrieve it, but it was gone. Surely the person that picked it up is waiting for this notice so they will know who it belongs to and who to return it to. I am also offering a reward.

◆ **Calvin Slota (608) 234-8072** ◆

IN GRATITUDE

I was honored to receive the award recognizing my 50 years of involvement in model aviation. I was surprised that the background plate was from the plans for my first published construction article--a U-control Supermarine Spitfire. It was published in *Model Airplane News* in 1955. Even more surprising is that someone knew where to find the plans. Since that first article, I have published over a dozen articles. Two were U-Controls, one a 1/2 a pylon racer (co-authored by Al Scidmore), many R/C scale models of British and American multi-engine WW II bombers, and 1930's Army aircraft. At the present, I am into obscure military aircraft, typically those where only one or two were built.

In regard to **MARCS**, I was in the original small group of R/C modelers that met in Joe Ungar's kitchen to create the MARCS, circa 1962. In the early days, I served a term as **President** and have been on the '**Board of Directors**' a number of times.

Over the 50 years, I have seen a dramatic development in R/C equipment and aircraft. In the early days we built our own radios transmitters, and servos from components purchase at electronics stores. By the 1970's kits were available from sources like Ace Radio Control and World Engines to build digital radio systems. In the early days, we flew a lot of 1/2A planes. Many of which were designed by the late **MARCS** member **Owen Kampen**. Today, R/C systems that we could only dream of in the past are widely available at very reasonable prices.

For many years, our flying sites were temporary and varied from sod farms, the Lodi airport, to the top of the hill that became the current Dane County land fill. Today we have our present beautiful flying field.

Most importantly, **MARCS** has always had a membership that was the basis of the camaraderie that makes building and flying R/ C models such a worthwhile experience.

Again, I would like to thank the membership of **MARCS** for the recognition afforded me.

Frank B. Baker

TIME PERMITTING...

Our general meeting will get to see the video of the '2002 War Birds over Dane, at Kettle Field.

Tail-Dragger Tips

Landing is a never-ending source of satisfaction to beginners and veterans alike. Under most circumstances, the full-stall (3-point) is the preferred method for tail-draggers and conventional gear (nose-wheel) aircraft. In a perfectly executed 3-point landing, the aircraft contacts the ground just as it reaches its stall speed. The landing process begins several feet in the air, where the plane is leveled out and back-elevator pressure is gradually added. The trick is timing the elevator. If the initial application of elevator is too great, the plane will balloon, assume a nose-high attitude and possibly stall. If this happens, be sure to get the nose down and add power. Incorrect timing can also result in stalling at too high of an altitude, and that will cause the plane to 'drop in' and possibly be damaged. Another common mistake is to contact the runway before you reach stall speed. This will result in a bounce because you are holding up-elevator.

The wheel landing is especially useful in rough and gusty air where a higher approach speed helps you control the aircraft. The landing is made by increasing elevator back-pressure until the longitudinal axis is parallel to the runway. The key to this type of landing is making sure that you release the up-elevator at the moment of touchdown, or you will balloon back into the air. Some aircraft require a little down-elevator during the rollout.

Landings require skill and judgment that will come with experience. If all else fails and you botch the landing, be sure to remark **how gusty it is today!**

————— Model Airplane News

Reading this article reminded me of what Bugs Bunny used to say about Daffy Duck's not-so-perfect landings, "Folks, he made a poifect 3-point landing....his two knees and his nose."
————— John/editor

MARCS membership dues....

| | |
|---------------------------|---------|
| Regular membership..... | 50.00 |
| Junior membership..... | 20.00 |
| Family membership..... | \$15.00 |
| Associate membership..... | \$15.00 |

*If you want to receive the newsletter by regular U.S. first class mail, add \$5.00. You must have proof of AMA membership in order to receive your MARCS membership card. Ed McDonald is the man to see.

NOTICE...

Any of the tools or equipment...
at Kettle Field, that doesn't work right or
you notice is in need of repair or is broken,

PLEASE...

Notify Ed Buechner
(608) 222-0774 or...
ebuechner@charter.net
So it can be taken care of **ASAP !!!**

...HENCEFORTH...

Our annual *New Years Day Fly* will be known as:

TOM LAZAR NEW YEARS DAY

MEMORIAL HOT CHILI and FUN FLY

"PROP' WASH"

Item or items list...e-mailed, sent by mail, by phone, or
handed to the *EDITOR* by the 24th of that month.
steensr@yahoo.com

Non-MARCS member ad cost:

10% of the advertised selling price. Photo to accompany
ad...add \$2.00. Ads must be pre-paid and received be-
fore the 24th of the month.

Remit fee to: John Steen Sr., N6826 So. Crystal lake Rd.
Beaver Dam, Wi. 53916. Personal checks OK, made out
to: MARCS, Wi.

Note:

All ads are posted for 1-month. Must be resubmitted
for each month. No carry-overs to next issue.

from the desk of:

Ed McDonald, club treasure.

Serving as the MARCS 'Treasure' for the past 10 years, I feel it is time to relinquish this position to another club member. I am willing to train anyone interested, for as long as they feel it necessary, until they feel comfortable with the duties and procedures connected with this office. You needn't worry about those special projects like the directory, as I can continue to do those for a while. Another word about the job, it isn't as hard as you may think. For one thing, most of the work can be done when *you* want to do it. You can plan your work duties around your schedule.

Phone: (608)249-0734 e-mail: rcace@charter.net

**TIP of the MONTH
FIXING HOLES...**

Fixing fiberglass cracks or filling holes and missing sections of airplane parts such as cowls is not that hard to do. Clean the part well. Patch the area with masking tape or electrical tape on the outside surface. Cut fiberglass cloth to fit the inside area and a second patch slightly larger to overlap it. Coat the inside of the tape and that area of the part with epoxy and layer the patches. When the epoxy cures, remove the tape and the repair will have nearly the shape of the original. Use the light-weight sanding filler or wood putty to build up the contour to your satisfaction and repaint the repaired part. Always remember that after any damage repair work the last step should be checking and re-setting the center-of-gravity of the airplane. Nobody will ever know you sustained any damage from that error in the air.



HELP!

This 'Administration' is in the process of compiling information on our late President, Tom Lazar, for an upcoming article in his tribute. We are asking anyone to write a paragraph (or more) on how he affected your participation in this hobby or if you knew him well and wish to write about him from that point of view. Your writing may be anonymous if you wish. Please forward your material to Brad Witt. bwitt@chorus.net Thanks.

2007-MARCS Event Schedule

| EVENT | DATE | LOCATION |
|--|-----------------------------|------------------------------|
| THERMAL GLIDER EVENT | June-16 | * Paul's Tree & Turf Nursery |
| SCREAMIN' EAGLES FLY | June-23 | Kettle Field |
| ELECTRIC FUN FLY | July-8 | Kettle Field |
| 1.5 METER SUMMER FLING | July-15 | *Paul's Tree & Turf Nursery |
| FLOAT FLY | August-4 | ** Riley/Deppe Park |
| BOY SCOUT FUN FLY | August-18 | Kettle Field |
| Ken Kindschi SCALE RALLY | August-26 | Kettle Field |
| WAR BIRDS over DANE | CANCELED this season | |
| * formerly 'Long Island Sod Farm | | |
| ** east bound on Hwy-19, on the left as you enter Marshall. 6:00-9:00am, electric / 9:00-Noonish, glow | | |

ELECTRIC flying in the BRODHEAD High School GYM

2007: All Wednesday nights until June Except: 5/30. The Schedule can change if any school event would come up that required use of the Gym. Any Snow day or other unexpected early release for any reason would cancel out our flying. If there is a question, feel free to call me. CELL 608-214-0575. Home: 608-897-8244 There is a good possibility of expanded flying hours on some nights. To receive regular e-mail update of times, and sources for airplanes. Send me your e-mail address to thamel@dr.com and I will place you on our list.

the RULES:

[1]. Strict 8-oz limit for fixed winged. For your safety and to protect the Gym from damage. If you are a new pilot, lighter is better/safer. We hold the right to restrict the use of any plane under 8 oz that we consider excessively powerful, fast or difficult to control. If you are not sure if your plane is safe to fly' indoors, ask one of the regulars first. Generally the largest planes flying are the GWS Pico stick and 7-8 oz shock flyer type planes. Please don't bring a 10 oz 3D plane and hope we will bend the rule for an expert flyer like you...

[2] 10-oz limit for Helicopters flown by experienced pilots. You must fly at the far end away from the crowd and under good control at all times.

[3] stay behind and keep children behind the basket ball out of bounds line at all times except when carefully retrieving a plane.

[4] Use the Bathrooms in the Gym when possible.

[5] Children must be with parents at all times. No running out in the halls. Anyone who has a child in the wrong area will be asked to leave.

[6] No AMA insurance is required. Everyone young, old, pro and novice are welcome. You do not need a plane, we will show you how to get started. Coming to watch the fun is great too.

[7] There is **NO CHARGE**. However, if you are a regular flyer, figure on giving at least \$10 for the year for janitor and office gifts.

Finally, the smaller the plane you fly, the more fun you will find you have. The best way to make the gym seem **bigger** is to fly a **tiny** slow plane! With the new tiny servos and receivers available, a 2-3 oz. plane is easy to build and affordable.

From Tim Hamel, MD

Notice: There will be no flying allowed on; May-30.

The HISTORY CORNER

by: Ozzie Johnson, 1999

edited by: John Steen, 2007

Chapter-5

This month we'll look at a winter fun fly on Madison's lake Mendota that took place in 1957. Rather than tell you all about it, I will post an article that appeared in the Capitol Times on February 11, 1957 that was written by one of their reporters, Herb Jacobs, under the heading: "Rain or Shine, Model Plane Club Members Hold 'Fly' Once a Month." It's a very good article from a historical perspective, whereas it gives a lot of detail about the state of modeling at that time, including flying sites. Free-flight and control-line were the models of choice, along with some rubber-power, with radio-control being in its infancy. The article also makes mention of a "State Radio Control Council."



GETTING A MODEL AIRPLANE motor started is a ticklish job that draws interested spectators and comments. Here Albert Wurz, 4510 Wallace Ave., stoops to whirl the propeller of his "Super-Ringmaster" as he prepares to fly it on the end of a 50-foot control wire.

Among those watching Wurz are, at the left, Bill Jacobs, Route 1, Middleton, and Jim Wilkie, Route 1, Verona. At the right of the circle of spectators is Norman Michie, 212 Bordner Dr., president of the Madison Model Airplane Club.

WINTER WEATHER makes no difference to model airplane enthusiasts. The Madison group, recently revived, gets out on the frozen lakes to fly small planes members have assembled, and meets each month for an auction, model building, or just tossing *motor-less* gliders for fun.

On a recent Sunday afternoon at the east end of Lake Mendota, many of the members braved biting winds to fly or watch craft which ran all the way from foot long models flown in circles on wire, to a giant with a 10-foot wing span, which had a motor with a real spark plug.

Many of the members design their own planes, thinking up variations of standard models, or creating weird and wonderful combinations which may or may not get off the ground. One of the newest activities is experimenting with radio control, rather than free flight or control line.

One fellow has a real flying saucer, looking like a good-

sized yellow platter as it soars through the air. Norman Michie, the club President, has produced a 'flying wing', covered with silk paper and so heavily lacquered that it can fly through tree branches and come out undamaged!



JOHN McNALL (LEFT) of 5540 Lake Mendota Dr., a University graduate student in education, squats beside his big "Custom Cavalier" model airplane as he and James Reed warm up the motor. The plane has a 10-foot wing span—so big that it is carried on the top of McNall's car. The plane even has a tricycle landing gear, just like the big commercial transports.

Tiny motors filled with an eye dropper power most planes, but they emit a snarling roar which keeps spectators at a safe distance, more impressed by the noise than the size.

Michie, of 212- Bordner Dr., is program coordinator for the State Radio Control Council when not flying planes, or making them, which he has done since he was 9 years old. If it's an indoor meeting, or an outdoor one, or the weather too rough to put up a motor plane, even on a wire, Michie is likely to produce some homemade baby gliders that can be tossed into the air and whirled away by the wind.

Other officers of the "Madison Airplane Club" are: Carmen Nelson; Vice President, Carl Vogt; Treasure, and Ray Lang; Secretary. With 12 charter members the club was started in June of 1956, and has grown to a membership of 68. Many of the members formerly belonged to the old 'Madison Gas Model Club', which flourished for some years after World War II. The group meets the first Thursday night of each month at the Nichols School, and 10 days after each meeting, namely on the second Sunday, the members hold a "Club Fly," rain or shine, in which they try out their new planes.

Ages of the members range from 9-years old up to 40. Some of the members are husband and wife teams, in which both partners are interested in flying. Michie is hoping the membership will grow, particularly in the younger segment, the group which does the most flying. All the members must also be members of the American Academy of Model Aeronautics, which provides insurance for all of the contestants. All contests are held under AMA rules, and that prevents accidents, says Michie.

A current project of the club is to build about 80 scale models for the State Historical Society, which will be added to the 70 already in the Society's possession, for a display of airplane types to be held late in February or early March, showing the history of aviation. (cont. page-7)

Last summer the club held a demonstration of flying on a Sunday at the old Royal Airport near the south belt line highway, and followed it a week later with a contest meet. Some 1,200 spectators turned out for the events. Similar meets are planned for this summer.

In former years, flights were held at the Truax Field circus site, but club sponsors were afraid of the high tension wires nearby, from which a spark could jump as far as 18-feet to the wires controlling the planes. The Royal Airport site is used by courtesy of the Gisholt Machine Co., who now owns it, and Michie declares that the new site is much safer for the contestants.

"Most of the members of our club are what I would call 'sport fliers,' rather than contest fliers," Michie comments. "They are more interested in designing and flying planes for the fun of it, rather than the 'contest flier,' who designs and builds for rigid specifications of a contest, to the extent that I sometimes think it ceases to be a hobby."

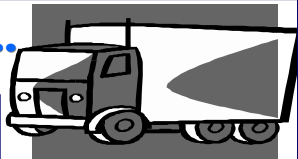
What keeps a youth or an adult interested in model planes? Michie says the hobby has a strong appeal to mechanically minded persons who like to try out their ideas of wings or motors. Many a youngster who started out with model planes keeps on, working into a life profession of aeronautics engineer, he points out.

At the senior end of the scale, enthusiasts tend to become designers and builders of scale models of various types of aircraft, fashioning them so skillfully that "you could put a model on a sheet of glass, and put an airplane view of a city under it, photograph the two, and you'd swear it was a real plane," Michie says. The scale models are usually made on a scale of a quarter inch to a foot, which gives a manageable size of a foot and a half to two feet.

By Herb Jacobs

Next month: We will look at an article that appeared in the 1958 issue of 'Air Trails Model Annual,' written by a member about how the Madison Model Airplane Club was organized and how they acquired a flying field after facing problems with safety and neighbors complaints about the noise.

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THE... "BUILDER'S WORK-BENCH "

Working with:

'Carbon Fiber' or 'Fiberglass'

You may have noticed that your tools do not last very long when sanding or filing carbon fiber or fiberglass. Even the best hardened tools will loose their edges when working with these materials. One trick I've found is to use a cut-off bit in my high-speed motor tool, but instead of using it at the higher speeds, I use it at a low speed. I do not want to melt the resin, as it will just wreck the bit. High-speed tools are great for many tasks, but when it comes to carbon fiber or fiberglass, I prefer to use these tools in the slowest setting possible.

Carbon fiber and fiberglass are great light weight products used throughout our hobby. Sometime we may not even realize that we are working with these products since many airplanes are made of balsa and have shrink-like coverings, such as *MonoKote* or *UltraKote* on them.

Many of the airplane's motor mounts are made of a plastic material which in many cases is carbon fiber. Carbon fiber and fiberglass can be deadly if inhaled. These materials cannot be dissolved by the body and will remain in your lungs. The body will try to rid itself of this foreign material and it can cause respiratory problems and possible death.

When drilling, filing, or sanding anything that looks as though it is made of plastic, carbon fiber, or fiberglass, it is always best to wear a good mask that will filter out the very small particles you will be producing. The best mask you can buy is the one that uses a carbon filter and has a good, tight fit. This is the one you should be using.

You should also wear some sort of eye protection, because removing fiberglass dust or particles from your eyes will not be a pleasant or easy task.

from: AMA "INSIDER" a National Newsletter

PROP' WASH CLASSIFIED ADS**FOR SALE**

The classic biplane: the... **SUPER STEARMAN**

By...  w/48-inch wingspan

With..... **O.S. - 46 2-stroke engine**

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Contact: **RALPH CHAMBERS @ (608) 445-6577**

DISTRICT - VII

Bill Oberdieck, District VII Vice President
sgaeroinc@comcast.net

IOWA, MICHIGAN, MINNESOTA, WISCONSIN



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Fax: (734) 283-0650
www.amadistrictvii.org

During my tenure as an AMA district vice president I've had much fun gathering information for the columns.

Taking pictures and speaking with the membership at various events is enjoyable, but this time I have to write about something to which no one looks forward. Sadly I have to report that District VII has lost one of its longest-tenured associate vice presidents.

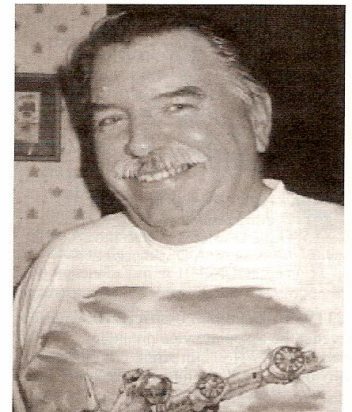
On February 25, 2007, Thomas Douglas Lazar passed away and was laid to rest on March 3. Tom suffered a stroke and never recovered.

He was a member and past president of the Madison Area Radio Control Society, (MARCS) and a member of the Screaming Eagles, the R/C Club of Watertown, and the War Birds. His mother, one brother, and four sisters survive Tom.

Tom and I shared many interests other than aeromodelling. We were avid photographers, archery enthusiasts, full-scale pilots, and members of the Civil Air Patrol (Tom outranked me).

Tom's passion for the hobby sport showed in many areas and there will be a void left in his passing. I am sure that those who knew Tom will join me in offering our thoughts and prayers to his mother and family.

C.A.V.U. Tom.



Getting the most from your 2-stroke engine

By Peter Goldsmith, Team JR

2-stroke engines have been around at least since the 1950's, perhaps even earlier. It's probably the most common type of model aircraft engine and, debatably, the most popular at the club level. For many, the sound of Saturday morning would never be the same without a .40 whizzing around at your local club's flying field. But have you ever wondered why some 2-strokes run better than others? The truth is, almost all modern aircraft engines are well-made and run well with high levels of reliability. There have been times in my life I would have challenged this statement, but I can honestly say that 98% of the trouble I have had over the years with 2-stroke glow engines (and I've been flying since I was six) was totally due to my poor tuning. To make any engine run properly, it needs two things: ignition (in this case, a glow plug) and fuel. Where we get into trouble is when either of these items varies from the optimum. Both key elements must be operating consistently.

Glow plugs are quite often misunderstood. They are not kept working by ambient heat in the cylinder. Once you remove the glow igniter, they are kept hot by methane produced from the burning methanol chemically reacting with the "platinum" in the glow plug. Sure the engine temperature and the compression do have some relevance to the correct ignition, but the primary reason glow plugs do what they do is because of this chemical phenomenon. So guess what happens if the platinum in your glow plug starts to deteriorate? You have poor ignition.

Lean runs are the biggest cause of glow plug break down. The platinum will start to deteriorate to such a point that only the perfect fuel air ratio will allow continuous running. A well set up 2-stroke glow motor should be capable of at least fifty flights on the same plug. For sport flying, that's a lot of Saturdays. So why do we have so many glow plug problems? The reason is the incorrect fuel mixture. Most of us can achieve the correct mixture on the ground, but what happens when the aircraft is in the air? Most will notice an increase in rpm's. More rpm means the engine is more than likely making more power in the air than it was on the ground. More power means more fuel.

I have a term: "Set to Kill." This means I lean the **high-speed needle** to a point the engine can run no leaner before it stops. For an un-pumped 2-stroke, this is way too lean. Instead, for sport flyers, I recommend finding the maximum rpm on the ground by running up the engine and setting the high-speed needle as lean as possible, then richen up the mixture 1/8 to 1/4 of a turn. Your engine will make more power in flight than it ever has if you

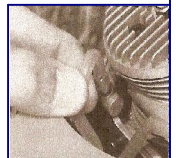


apply this tip.

Another big reason for lean runs is poor fuel systems. At some point of our model's life, the fuel flow to the engine worked well, but after time, things move around. Fuel tanks can be pinching fuel lines. Muffler pressure hole will carbon up. Holes can appear in fuel lines, and my favorite, junk in the carb. All these things are avoidable. I am a fuel filter guy. I have a filter in my fuel can, plus one in the aircraft. I check my fuel tanks every 100 or so flights. I replace fuel lines each winter and so on. Preventative maintenance is the way. Some of you have precious little time for flying. Spending some time preparing your model will always pay off when you get to the field. The model field is for flying, not aircraft maintenance.

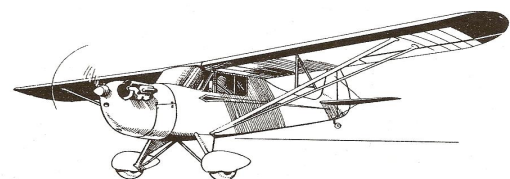
The final little element in the 2-stroke "fun meter" equation is the low needle settings. The **low speed needle** is not just for the slowest idle. It is responsible for the fuel flow to at least 1/4 throttle, and in some designs, even more. A poorly set idle needle can be just as damaging as a poorly set main needle. **This is one of the reasons we have needle limiters on all our Evolution glow 2-strokes. They allow people to be in the ballpark, where only final tweaking is needed for optimum settings.**

Setting the idle needle is pretty simple. Start your engine, warm it up, and then pinch the fuel line going to the carb. If the engine dies straight away, you may be a little too lean on your low speed needle. If you pinch the line and the speeds up, then dies, you are rich. The optimum setting is where the engine momentarily speeds up, perhaps 1/2 a second then dies. Once you have your low speed needle set here, it should never need to be adjusted again.



One final piece of advice---make sure you have a "consistent" fuel. Methanol is very hydroscopic, meaning it attracts water. Make sure your fuel is fresh and once you are happy with a certain brand, stick with it. Each fuel manufacture uses slightly different ingredients, which will cause a variation in your needle settings. Also try to stick to the same nitro content, whether it be 5%, 10%, or 15%.

I hope reading this article gives you more success at the field. Happy flying.



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