The SENIOR PATTERN ASSOCIATION
News Letter

Dedicated to the building, flying and competition of vintage Pattern aircraft

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MAY/JUNE 2005

Precision Aerobatics - like the "good-ole-days"

THE PRESIDENTS PERSPECTIVE

Bruce Underwood

SPA—15

CULLMAN, AL....April 23, 2005

It was one of the days that BLUSTERY was the foremost utterance among conversations carried on by attendees at the "season-opening" SPA contest here.

CD Steve Byrum called a 3rd meeting of intended participants before a decision, on popular vote, was reached to cancel the scheduled contest and apply for a "make-up" sanction date for October following the Masters in mid September. The action was spurred by twisting and turning winds of up to 37+ miles per hour associated with a rapidly moving cold-front that followed a series of thunderstorms that pelted all of the state of Alabama on the heels of 6 consecutive days of almost "picture-perfect" Spring weather.

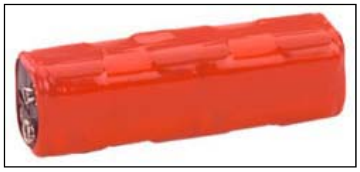
Byrum and the Cullman Aeromodelers expressed over and over their gratitude to the excellent number of intended participants who attended. All this reporter conversed with following the contest officials decision....were universal in agreement with the contest officials that this was indeed a wise decision in view of the adverse flying conditions.

Looking forward to "fraternizing" with all this season.

E-Mail me with any newsletter input, my address is:

bunderwo@hiwaay.net

IN THIS ISSUE



2005 SPA contest Schedule

May 14-15 Huntsville, AL - Ken Nix - CD

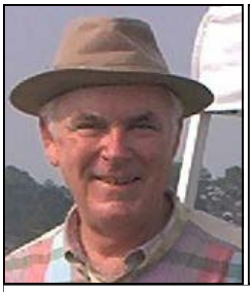
June 21 Newport News, VA - Owen Dwire - CD

July 9-10 Cave Spring, GA-Bruce Underwood –CD

July 23-24 Hotlanta, GA - John Baxter - CD

August 27-28 Knoxville, TN - Dennis Hunt - CD

Sept. 17-18 Masters @ Auburn, AL-Rick Helmke - CD



JUDGING 101

by

Keith Watson

Greetings to all SPA members! Most everyone has seen me thrashing about the sky on the contest trail. I'll be writing about the fine art of judging for this season and maybe even longer unless the editor cuts my pay.

Judging is a good opportunity to improve your own flying. When you're in the judge's seat you don't have to use any brain cells twiddling the sticks so you can concentrate on what raises a score and what doesn't.

First maneuver: **TAKEOFF**. (Duh). This is a very important maneuver because it's easy to fly and judge and it's worth 10 points! If you don't see a full stop, deduct 1 point. I'd probably deduct 2 if it's rolling at more than a crawl, but that's not actually in the rules.

Let's look at the **stall turn**, which appears in the Novice pattern. As always, entry should be straight and level. The pull-up should start after center, which gives judges and pilot a good view. Centering isn't actually spelled out in the rules so it shouldn't be downgraded unless it's very obvious. Note the entry heading and altitude. The return path should be the same except for being 1 or 2 wingspans in or out, depending on the rudder direction. A blast of power at the top will result in a downgrade because the turn will be too wide. Besides, it's ugly.

On the **Figure M with 1/2 rolls,** the four rolls may be in either direction. No downgrade if they aren't the same. If the second stall turn is in the opposite rudder direction to the first, it is a downgrade but not a zero. To get max points, one turn must yaw toward the pilot, the other must be away.

Three rolls: Smooth elevator work makes or breaks this maneuver. Look for 5-7 seconds. A little longer is OK, but under 5 seconds is a downgrade. The airplane should be inverted directly at center after 1 1/2 rolls.

I'm not planning to run the complete list of downgrades for each maneuver (too tedious) but they are in the SPA rule book which is based on the pre 1976 AMA rule books.

Feel free to e-mail me: chiefwatchman@bellsouth.net

GOOD FLYING - Keith

More photos from Cullman Apr. 23, 2005

Steve polled contestants 3 times before calling off and will probably reschedule following the MASTERS in October.

October is looking good now for milder winds !

General Glow Plug Information - Consolidated

By James McCarty, Brian Cooper, Brian Gardner, and others Including www.flightlines.com

OS Glow Plug Information # 8 Hot Recommended for most current O.S. (and other) 2-stroke engines **Type F** Mildly Hot Special long-reach plug recommended exclusively for O.S (and other) 4-stroke engines **Type RE** Hot Special long-reach plug designed exclusively for O.S. Wankel rotary engine **A5** Cold Recommended for most current O.S. (and many other) 2-stroke engines particularly for 1/10th & 1/8th scale off-road car engines **A3** Hot Dependable O.S. quality makes A3 the most durable and longest-lasting glow plug available at an economical price **R5** Very Cold Recommended for high-nitro fuel and high r.p.m. engines, particularly 1/8th track racing car engines **ENYA Glow Plug Information # 3** Hot All Enya engines such as TV & four cycle engines **# 4** Mildly hot All Enya engines, especially those used with 10%or greater nitromethane fuel **# 5** Medium All Enya engines, especially the .40CX, .45CX and high nitro methane fuel **# 6** Cold High compression engines and high niro methane fuel used in racing. **Fox Glow Plug Information** All 1. 5 Volt Plugs are Dry Cell or Ni-Cad All 2 Volt Plugs are Lead Acid Battery **Standard Short** Hot 1.5 Volt, Standard Short Hot 2 Volt **Standard Long** Hot 1.5 Volt, Standard Long Hot 2 Volt **Gold STD Long Plug** Hot 1.5 Volt, RC Short Mildly Hot 2 Volt **Gold RC Long** Hot 1.5 Volt, RC Long Mildly Hot 2 Volt **RC Short** Mildly Hot 1.5 Volt **RC Long** Mildly Hot 1.5 Volt **Miracle Plug** Hot 1.5 Volt **Pro 8 Short** Cold 1.5 Volt **Pro 8 Long** Cold 1.5 Volt **McCoy Glow Plugs with OS Equivalent MC-8** Cold A5, R5 **MC-9** Medium Hot #8 **MC-50** Hot IDLE BAR - LONG **MC-55** Medium Hot A3, #8 **MC-59** Hot **STD ROSSI GLOW PLUGS BI-TURBO GLOW PLUGS (without idle bar) (conical w/o washer)** Rossi Glow Plugs (cold for pattern type work / high nitro fuels, hot for sport / low nitro flying) **R1** Extra hot 0.8 to 2cc RB4 Hot **R2** Hot from 2 to 3.5cc RB5 Medium **R3** Medium from 3.5 to 6cc RB6 Cold **R4** Cold from 6 to 10cc RB7 Extra cold **R5** X-cold for nitro fuel & R/C RB8 Super cold **R6** Cold nitro 10 to 13cc **R7** Cold for nitro 13 to 15cc **R8** Cold for nitro 15 to 30cc GLOW HEAD FOR R15 **G1** Hot **R/C GLOW PLUGS G2** Medium (with idle bar) **G3** Cold nitro 15 to 30% **RC** Hot for 2.5 to 6cc **G4** X-cold nitro 30 to 50% **RC** Cold for 6 to 15cc **G5** Cold nitro 50% or more.

Glow Plug Usage Tips Your glow plug temperature range is too cold when: The engine power is weak or has weakened from previous levels. The engine slows down considerably or stops after removing the glow plug battery, despite correct adjustment of the needle valve. For example (Enya), if a # 4 plug gives you these problems in your engine, switch to a # 3 plug instead. **Your glow plug temperature range is too hot when:** The engine suffers from pre ignition and loss of power. The overall engine running is rough The glow plug filament is broken or collapses frequently. These are several cures to these problems. We suggest using a fuel with less nitro methane content, using a larger size propeller or using a colder plug than the one currently in use. For example if an Enya # 3 plug gives you these problems in your engines, switch to a # 4 plug. Model glow plug engines are extremely dependent upon the type and quality of the glow plug used. Enya glow plugs use a platinum alloy coil, which uses a thick diameter wire for long life. The thicker wire coil also eliminates the need for an "idle bar" as found on other brands of glow plugs; idle bars tend to reduce top speed slightly, to achieve a more stable idle speed. Enya's glow plug design insures both good top end speed and stable idle speed. Enya glow plugs also have a thicker battery contact at the tip of the plug for greater heat dissipation and better electrical contact. Altech Marketing presently stocks glow plug battery cords specifically for Enya glow plugs, which are standard equipment with Enya four-cycle engines. Other glow plug cords usable with Enya glow plugs are available from several other manufacturers. **HOT GLOW PLUGS (for low nitro and FAI fuels) Enya**: # 3 **Fox**: Miracle, Standard, and R/C Long (2V) **Fireball**: Hot (1.2-3.0V), and S-20 R/C Long **Fire Power**: F 6 (warm), and F 7 (hot) **K&B**: 1 L **McCoy**: MC 55 R/C Long, MC 59, and MC 14 (very hot) **O.S. Engines**: # 0, # 1, # 5 **Rossi**: R 1 (extra hot), and R 2 **Sonic Tronics**: Glowdevil # 300 **Thunderbolt**: R/C Long **MEDIUM GLOW PLUGS (for 10%-15% nitro fuels) Enya**: # 4 (medium hot), and # 5 (medium cold) **Fireball**: Standard (1.2-2.0V) **Fire Power**: F 5 (medium), and F 6 (warm) **Fox**: R/C Long (1.2-1.5V), and Gold **Hanger 9**: Sport Long **McCoy**: MC 50, and MC 8 **O.S. Engines**: # A 3, # 8, # 9, # 7 (with idle bar) **Rossi**: Medium, and R-3 **Sonic Tronics**: Glowdevil Standard **Tower Hobbies**: Tower Power Performance plug, and Reg. (w/bar) **COLD GLOW PLUGS (for high nitro; 25% +) Enya**: #6 (cold) **Fireball**: Cool (1.2-1.5V) **Fire Power**: F 2 (extra cold), F 3 (cold), and F 4 (cool) **Fox**: R/C (1.2V), and # 8 **K&B**: Long & Short high performance nitro plug **O.S. Engines**: R-5 **Rossi**: R 4 (cold), and R 5 (extra cold) **FOUR-STROKE GLOW PLUGS (hot) Fox**: Miracle plug (often used in 2C's W/low nitro) **McCoy**: MC 14 (very hot, often used in inverted 4C's) **O.S. Engines**: Type F **Sonic Tronics**: Glowdevil ST 301/302 **IDLE BARS** Idle bar glow plugs came about because some engines were having trouble transitioning from idle to high speed. When the throttle was opened from idle, the incoming air and raw fuel would strike the glow plug's heated coil, cooling it to the point where it would no longer support the combustion process, so the engine would die. To help prevent this, the idle bar was added to the glow plug to serve as a physical shield, helping to keep the coil from cooling off too quickly. A glow plug with an idle bar will not increase peak RPM (it may even reduce it in some cases), but it may improve the idle with some engines, since it simply helps to keep the plug hot enough to light the fuel. If your having transition problems, you might want to try using a glow plug with an idle bar. Some modelers use idle bar plugs in the winter only, since the glow plug tends to loose heat faster in the colder environment. Naturally, all of this assumes that you have the low speed mixture adjusted correctly to begin with. **HOT PLUGS** So what is a 'hot' plug, and how does it differ from a 'cold' plug? Naturally, a hot plug will heat up faster and stay hotter, but that's not the whole story. When discussing this aspect of glow plugs, another very important aspect must be considered, the amount methanol in the fuel. The more methanol we're using (i.e., less oil and less nitro), the hotter the plug we should use. Conversely, the more nitro and/or oil we use, the less methanol we're using, so we use a cool(er) plug. An extreme example would be when using a very high nitro content fuel in a very high RPM engine (a typical ducted fan engine, for example). Here we'd use a very cold plug. For most sport pilots using fuel with just 5-15% nitro, however, a hotter plug would probably do well. Probably? Yes, trial and error is often the best (and sometimes 'only') way to determine the right glow plug for your application. Most 4C engines need either high nitro or hot plugs to run at their best, since they have combustion strokes only half as often as 2C engines.

RULES OF THUMB TO LIVE BY Use a hot plug with low nitro (less than 24%), and a cold plug with high nitro (more than 25%). If you remove the glow starter from you idling engine, and notice an immediate drop in RPM, you may need a hotter plug or more nitro. If your engine has a tendency to backfire a lot, you may be using a glow plug that's too hot, or you may need fuel with less nitro. Most hot plugs can take up to 2.0 volts starting power without burning up, while most cold plugs prefer 1.2 to 1.5 volts starting power.

The beautiful PHANTOM-1 pictured above is the "**winter-project**" of John Gausby up near Richmond, VA. I rushed him a bit to shoot the photo for this edition of the Newsletter.
Along with the neat photo, John, SPA # 181 penned:

ZIMPRO / GAUSBY PHANTOM 1

I wonder what Bob Klineyoung would say after seeing his design in pink / yellow / purple? It lights up like a neon sign when the sun hits it. I'm sure he would be very proud to see the group of Phantoms that will be flying this year.

Thanks to Dennis Hunt for the completed wing halves / horiz. stab / and sheeted foam turtle deck. This made the project very enjoyable. I did the rest. Some modifications were made to the fuselage to accommodate the OS.91 FS. Otherwise it's stock. JR guidance.....**John Gausby**

Invite a model flying buddy in your

local R/C flying club to join the

fun of SPA membership.

Membership application is on

back page of this publication

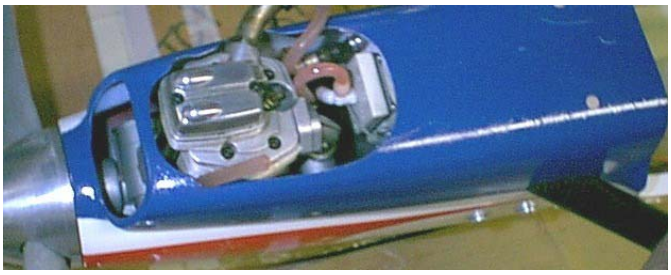
IVEY's "SECRET WEAPON" up close

Jim wrote: The battery system is a 2000mah lithium-ion 2 cell battery(centralhobbies.com),using a 5.7 volt regulator. As shown the regulator is mounted on the battery pack. The system weighs less than 4 oz. There are some well documented safety issues with these batteries and we have to be careful when charging and use the correct charger.

Since I don't have to charge as often I didn't mount a charge jack in the fuse. I Saved some more weight here. The plane weighs 6lbs 10 oz, dry. The fuselage paint is PPG and the wings and stab are foam,obechi sheeting covered with monokote. The LG is the small Bolly, Each leg is held in with one 4-40 screw.

I am using JR 9411SA servos(elev-rudd) and DS 68 on the ailerons. They are glider wing servos1.25x1.25x.4in. The elevator setup is a dual carbon rod pushrod (idea from Troy Newman and others). Rudder is the standard pull-pull setup. I did the plane as depicted on the Airforce Thunderbird web site. I thought at first it would be hard to see since it is white, but there is enough contrast from the red and dark blue to make it visible to me.

The tank is on the cg and the cline regulator is mounted behind the engine head, as shown. I am using a cline regulator system with muffler pressure and a check valve to capture the pressure in the tank for the regulator.Being a fuel on demand system, as the vacuum increases in the carburator, the regulator diaphragm, being pressurized on one side opens and allows the correct amount of fuel to the engine. I was concerned at first. Would there be enough pressure from this muffler? The pressure is less than 1 psi at full throttle. So far I haven't had the engine starve for fuel.



The plane has some pitch to the belly with rudder(3%) which I mixed out. I had to add 1.25 oz lead to the nose to make it lock in on horizontal flight. I could have moved the battery, but figured it was easier to add lead. The plane may be too light as it is. **Jim Ivey**

HOWARD ENGINEERING

K w i k F l i I I I

A legacy kit from the 70's still kitted by the original manufacturer

Senior Pattern Association Approved

Span ~ 66 in Length ~ 52-½ in Wing Area ~ 660 sq in Weight ~ +/- 6-½ lbs Engine ~ 60 up

Kit contains …
Joined glass fuselage CNC foam cores Pre-cut fuselage bulkheads Aileron stock CAD plans Construction manual

$165 + shipping built on order PayPal / money order

Tony Howard 14532 247 Dr SE Monroe WA 98272-7627 360.794.6036
Tony_Howard@comcast.net

NICADS or newer NIMH ??

<Transmitter Packs

Receiver Packs>

www.batteryspace.com

At the Trade Show in Perry....a lady convinced me to try a transmitter pack of NIMH (Nickel Metal Hydride) saying "you'll like these even better than nicads". A radio station engineer tells me...."you'll be sorry cause the NIMH cells will just run down on you sud-denly...and not give you an indication of approaching *their capacity like the nicads did".*
I posted the above on the SPA maillist and asked:

Anyone online have any experience with these cells? An old publication from GE, authored by Red Schole-field doesn't make reference to NIMH cells as they were not around at the time of this publication. About the only solid info on NICADS in this book is: " Charge at 1/10th capacity for 10 hours then add a couple hours just for good measure".....and then there's the line in the-book..."don't allow them to develop a memory....fly dif-ferent periods each time out....otherwise they'll think it's dinner-time and quit".

Do NIMH's develop memory also? Is the charge rate on them 1/10th capacity? How do they differ in other ways from nicads? Do they SUDDENLY quit, as if someone blew the 5 o'clock whistle?

I received many good replies (Cut & Pasted) here:

NiMH batteries are just fine. I use them in my Tx packs, and a couple Rx packs.
Here's the link to Red's web page for the full story: http://www.rcbatteryclinic.com/ You just can't fast charge them. Keith L. Hoard
Cordova, TN khoard@midsouth.rr.com

I've been using NiMh batteries in both transmitter and receiver applications for about 4 years and find them to be very good. They are lighter and cheaper than Nicads and have greater current density. A 1650 mah NiMh receiver pack is about the same size and weight as a 600 mah ni-cad pack. Also, they do not display the "memory" charac-teristic of older technology nicads. It is true that the shelf or self discharge rate of NiMh batteries is somewhat higher than that of nicads. That is, after a given length of time, an unused NiMh pack will loose more capacity than a similar nicad pack. This has not been a problem for me since I charge my batteries often with a good peak detec-tion charger. About half the time I charge them on the way to field. The only down side to NiMh batteries, if it is a down side, is that you need a good charger if you want to quick or fast charge them. The voltage peak at full charge is harder to capture because it is not as sharp as the volt-age peak with nicads. This means that some peak detec-tion chargers that work fine with nicads will cook your NiMh packs by overcharging them. Dave Thacker has a good discussion of chargers on his Radical RC web site. He tells which chargers are good and which ones to avoid. I usually get my batteries from Radical RC by mail order.

To get more info go to Dave Thacker's Radical RC web site www.radicalrc.com/ Dave was probably at Perry. He supplies a lot of RC batteries of all types.

JRH (Joe Holton)

Subject: RE: BATTERY INFO? Ditto what Keith says. I've used them for a couple years. I've got as many as a dozen flights without charging. You'll like that. That is probably a factor of the larger capacity, too. The only problem I've ever had was when some idiot forgot to turn off his transmitter on Saturday afternoon at Hotlanta last year. That killed the battery real dead and there's no com-ing back. Fortunately, I used a Triton to recharge the pack in preparation for flight. The charger told me the bat-tery was fully charged after taking 375 mah. I replace the pack and disposed of the old one.

Steve Byrum

I have been using Sanyo 1650 NiMHs for both rx and tx for over two years. I get them from Radical RC. Nothing but good things to report. The capacity is great and they are lighter than the same size NiCad. I have never seen a pack suddenly go down. I check my pack before each flight and they all behave nicely. You cannot charge them as fast as NiCads. My fast charge on NiMhs is about 550 mA. I believe the C rate is as fast as they are supposed to be charged. First charge on new packs is a C/10 for 16 hours. Then discharge. I do a C/10 then discharge two more times and make sure the capacity is good. I have not seen a "so-called" memory problem with them.

John Van Brocklin

On Steve's say-so (I was at Hotlanta & there when he discov-ered that the Tx genies don't turn off your Tx unless you're there to make sure they do!!) I now have NiMHers in my JR PCM10 Txs. I had a suspicious aircraft crash in 1992 with a NiMH (BHydrimax) Rx p ack & haven't used them in a plane since. NiMHs fail OPEN (means nocurrent at all with a dead cell), whereas NiCds fail shorted, so you still have some current if a cell shorts. Vibration in a plane can help a battery pack to fail

I think the NiMHs have improved since the early days in the early 90s, but with 1300 to 1600 MAH NiCds for Rxs to balance a plane, I don't feel the pressing need for NiMHs on the Rx...
Phil Spelt

AMA 1294, NSRCA 2032, SPA 177
You will find a statement about Nickle metal batteries in the address below.
http://www.rcbatteryclinic.com/

Jim Ivey

This subject of NIMH cells drew lots of comment on the SPA Discussion list...very interesting stuff and is continued at the top of page 7.

I use NiMh batteries both in my airplanes and my transmitters. The modern ones have no bad habits as far as I can tell. They discharge very similar to NiCds, they are much larger capacity for the same weight, they slow charge the same as NiCds, and any CURRENT fast field charger will fast charge them; just look for NiMh compatibility. I have had zero problems with them. Don't even own an airplane NiCd pack. The end of discharge curve is very similar to NiCds; you don't want either one to get to that point. They don't suddenly quit anymore than a NiCd.

Current NiMhs don't self discharge nearly as fast as older ones. I've not seen a problem at all. I strictly use Sanyo NiMhs that I buy from Radical RC, either online or at swap-meets.

Charge NiMhs the first time at C/10 for about 15 hours or so. They don't develop their peak characteristics until after one charge cycle, so don't peak charge them the first time. I generally charge at C/10 and then discharge them twice before I use them, checking them for capacity. I find I get very close to the marked capacity. I've been using them for two years, and haven't noticed any loss of capacity yet. I like being able to charge them at any time without worrying about memory. I only very occasionally cycle them to check for capacity, not to condition them.

Some very high capacity NiMhs for their size don't like extremely high charge rates over 1C. Radical RC tells you which ones. I use either 1650 mah or 2150 mah packs, and don't worry about them. Most field chargers fast charge at 800ma or so, so they aren't a problem.

NiMhs are being improved constantly with higher and higher capacities. Word is that some European countries are forcing the change to NiMhs, since they are heavily regulating disposal of the cadnium in NiCds.

As far as failing open or shorted, I don't know. I haven't had a problem either way.

I talked Art Azlin into a 2150 mah replacement pack for his 10x cartridge, and he is amazed. Stays charged for ever, even after lots of use. He's sold.

I haven't found a downside. Modern batteries are reliable, and the NiMhs I've used are no exception.

Jon Lowe SPA 245

ED NOTE: Discussions of this type are welcomed to the SPA Discussion or mail-list. The mail-list has about 75 regular members at present and may be joined via your home computer by enrolling inside the SPA Website of informing Webmaster Ed Hartley or myself (Bruce) your desires. The website address for the SPA home website is:

www.seniorpattern.com

Here's one of the handiest items I have found to have access to in a modelers workshop. Its an all-foam caddy that I got from Sid Austin at Pyramid Hobbies in Cullman, AL. You can see he was reluctant to get rid of it . (Note his name).

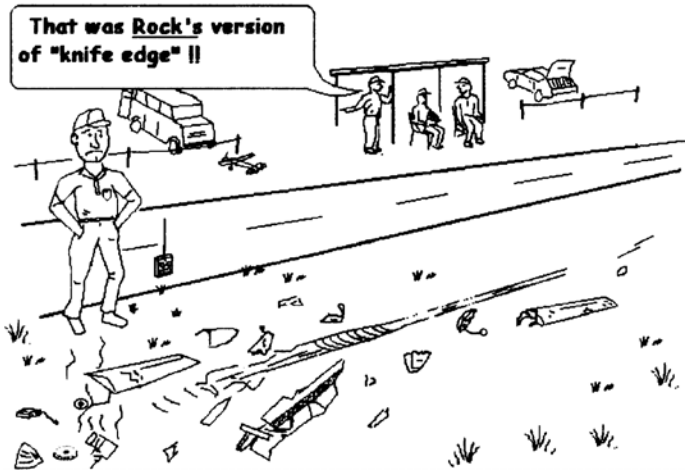
Sid advised me these dandy caddies were hard to obtain and hard to keep in a hobby shop but as of this writing, he had obtained a "truckload" of them. Using these while making adjustments to a model fuse or wing, etc. eliminates the "dings" that always make their way into a good looking model from just handling it.

Pyramid Hobbies has a neat webpage on the internet at:

http://pyramidhobbies.com

He maintains a TOLL-FREE number for orders at:

877—435—9866



From Clay Ramskill[s" RC Page where the caption was

T H I M K !!

Senior Pattern Association Membership Application

Name_____ Date of Birth_____

Address_____ Phone ( )_____

City-State-Zip_____

AMA Number_____ Club affiliation_____

Membership Dues $20.00 Make Check payable to Senior Pattern Association. Mail to:

Steve Byrum
1326 3rd St. SE
Cullman, Alabama 35055

Bruce Underwood
1412 Patterson Street
Guntersville, AL 35976