



Academy of Model Aeronautics

Chartered Club #970  
5 Year Gold Leader Club

# SKYWRITER

## PRESIDENT'S MESSAGE...

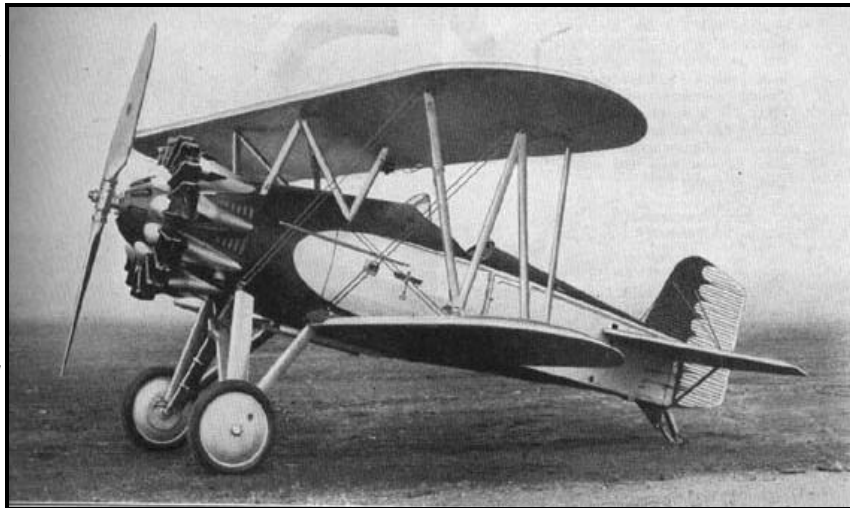
BY: ROSS JONES

Well folks, it hit 39 degrees today (19<sup>th</sup>); Spring is indeed fast approaching. Done with those winter projects yet? Don't even ask me – I have too many!

Thanks to Joe Finkelstine and all his volunteers on their very successful swap meet! A very impressive, well coordinated event – see the report within. I found another Warbird kit! OK, just a small one, but the interesting part is the (prior?) owner has requested final approval on color/markings and accuracy of outline, scale appearance and flight performance.

I should mention that the (prior) owner is a member of SkyMasters. This situation is kind of interesting and I had assumed that by buying the kit, I had received title. I guess in the model aviation industry it works a little differently perhaps? I'll keep you posted on how this works out.

Plan on attending the March Meetings: We have two speakers for the meetings in March; Jim Held and myself will be working on finishing fiberglass on March 12 at the Boy's and Girl's club and Vince Pettke on the 26<sup>th</sup> will be working with Monokote™.



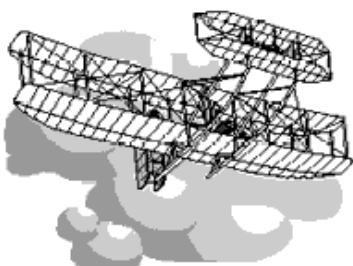
I'm looking for someone to educate us all on the perfect application of a canopy for another meeting. I've seen a few good canopies on the field, and then I've seen more like mine (not good)... Please drop me a line if you can speak or at least teach us less fortunate majority a sound technique.

For April 19th, mark your calendars now for the (Yes, April is coming fast) Bald Mountain Involvement day. This is the keystone of the relationship between us and Bald Mountain State Parks. There are light jobs, heavy jobs and everything in between. Gary Weaks will be the Event Coordinator and the person to see for assignment of jobs. Unlike unruly gangs you might see laboring on TV, this event has always been impeccably coordinated and you can leave with the satisfaction of a job well done. If you can't make the first part of the

morning – there is always room for you somewhere. This is also a fantastic icebreaker for the newer members, or members who don't meet many other SkyMasters. For work, this has personally been my favorite event.

**JUST BE THERE RAIN OR SHINE!**

~ROSS



100 YEARS OF FLIGHT

### 2003 Club Officers & Appointees...

President:	Ross Jones	6028 Meadowgreen	Waterford	48327	248-738-4435
Vice Pres:	Paul Zabawa	PO Box 138	Metamora	48455	810-678-3332
Secretary:	Gary Weaks	2512 Red Fox Trail	Troy	48098	248-540-8358
Treasurer:	Bob Donohue	260 Four Seasons Dr	Lake Orion	48360	248-391-1385
Editor:	Mark Smith	1955 Hopefield	Lake Orion	48359	248-391-5970
C F I :	Ron Sokacz	40714 Matlock	Sterling Hts	48310	586-977-1404
State Park:	Bill Stark	1010 E. Clarkston	Lake Orion	48362	248-693-8639
Membership:	John Billinger	943 Vanderpool	Troy	48083	248-680-3318

(Continued from page 3)

mine to make, but are the prerogative of the BOD. Since I get to write this summary though, you get to listen to my take on the subject.

The original goal of our swap shop was to make both a social and modeler-to-modeler environment that would be a fun night even if you did not buy or sell anything. This is a significantly different goal than the big swap shops we all attend. Owosso, Toledo, etc., swap shops are large moneymakers for their respective clubs. There is nothing wrong with that, but if we switch to a weekend format at a bigger hall, we will have to realize a few things.

1) The swap shop will become much more complex to run and will require significant more planning and preparation far beyond my capabilities (hey, that's a great idea – we need a new event director now!) – I would see it becoming not too far off from the effort of our regional float fly. If you ever notice at these big swap shops, the entire hosting club is heavily involved in them, and they are a lot of work. Participation by every club member in running these big swap shops is mandatory because of the effort.

2) Our original objectives of the Skymasters swap shop are 180 degrees away from what a large

swap shop is all about – That in itself is not necessarily bad, but we have to again decide if that is what we want to do.

One thing that points to expanding our swap shop though is our current attempts to build up a fund to buy a second flying field. If we so choose, we could attempt to make the swap meet a bigger moneymaker for us

This is a real issue for our BOD to decide, lucky for me I am just the bum who runs the shop.

Again, I would like to thank all involved for helping out and hope you enjoyed it as much as me

~Joe

## *The Radio Control Club of Detroit*

### **Presents: The 2003 Mall Show!**

Saturday & Sunday, March 15<sup>th</sup> & 16<sup>th</sup> at Macomb Mall in Roseville (by Kohl's)

The Radio Control Club of Detroit is a non-profit Academy of Model Aeronautics club, dedicated to the advancement of model aviation in both youth and adults. Members of the club will have many of their highly crafted and realistic models on display at Roseville's Macomb Mall on March 15<sup>th</sup> & 16<sup>th</sup>. The display will include scale models of vintage aircraft, World War II and modern era fighters, helicopters, and examples of typical R.C. planes.

Many club members will be present to explain how the models are constructed and flown. They will also be on hand to answer any questions you may have about the hobby. There will also be an R.C. flight simulator to demonstrate what flying an R.C. airplane is like. The Macomb Mall is located on the corner of Gratiot at Masonic in Roseville.

For additional information about the Radio Control Club of Detroit and their upcoming events, visit

their website @: [www.rced.org](http://www.rced.org)

Contact: Mike Pavlock (586) 716-1854

e-mail: [mpavlock1854@comcast.net](mailto:mpavlock1854@comcast.net)

## **FROM THE EDITOR...**

See Skymasters on the web  
at - [www.skymasters.org](http://www.skymasters.org)

Welcome to the March Issue of the Skywriter. Swap season is almost over. Toledo is just around the corner, Bob & I will be driving down Friday if anyone wants to ride along contact Bob, he has a few seats available.

The winter flyers are still at

it, I was out with my gremlin tried my "touch & go", it "came & went" (all is fixed). Pretty soon it will be warm enough for all the "girly boys to fly". I always look forward to spring, all the new planes come out for their maiden flights. I like to watch the pilots

hands shake as they taxi their new pride and joy out and take off. Even the good old boys shake a little. (right Jim)

Mark & Liz

[masmith248@earthlink.net](mailto:masmith248@earthlink.net)

Articles must be received by the 20th for next issue. Articles may be reproduced from Skywriter.

# “SKYMASTERS SWAP SHOP”

BY: JOE FINKELSTINE

Hi All,

Well, we had another successful swap shop this year and I hope you all enjoyed it. As always, this swap meet takes a big team effort and I want to thank all of you who helped. A few individuals went above and beyond for this meeting and they were:

Darrel Watts and Steve Fredericks— for running and organizing a great auction

Greg Cardillo – Buying the kits for the raffle.

Bill Dezure – As always and ever running the kitchen.



our swap meet and hopefully, we can figure something out as a club to do so. There are tradeoffs involved with holding an auction, and if I run the auction next year, I will bring it up for people to comment on, as if we run it, It will require more people to help.

Each year I have run this auction, I have gotten comments about making the swap shop bigger, run it on a weekend, etc. – My first comment here is that these types of decisions are not

*(Continued on page 2)*

This year's swap meet generated roughly \$900 in total revenues and had expenses around \$300. Our swap meet usually is a small moneymaker for us in its present form.

This year, Darrel lead the effort to hold an auction of an estate of a modeler acquaintance and I would personally say that it was a success and all of knew that Darrel has certainly mastered “auctioneese”. I would like to see the auction continue at



Photo's by: Greg Cardillo

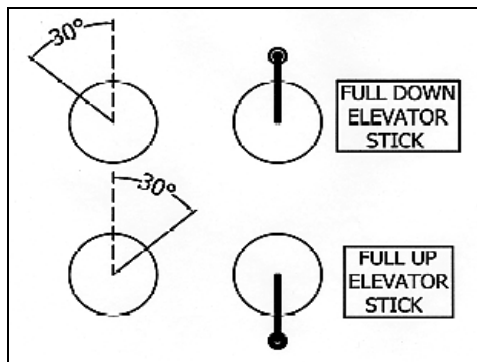
# PROP WASH

By: Joe Finkelstine

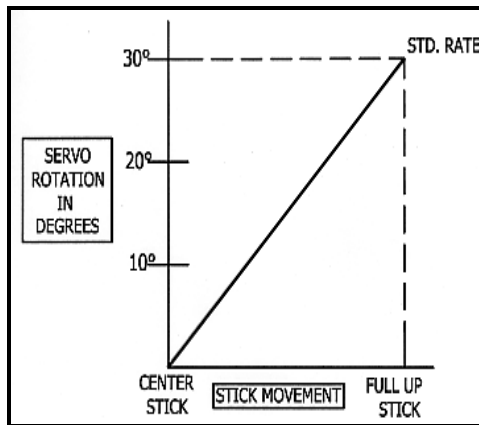


Hi Gang,  
 This Month I want to discuss some aspects of setting up our ships with computer radios. Some of you in the club may remember a talk or two I had about radios, which focused on how radios work. I want to discuss something this time about radios, which involves the setup and usage of basic functions. I continue to be surprised at how many flyers that own radios with basic functions (or advanced) and do not even use the basic setups that are very helpful. The functions I talk about are dual rates, sub trim, travel volume, and expo. Almost every radio made nowadays has at least dual rates, and a majority has sub trim and expo.

If you will allow me to ramble on for awhile about how our radios work, I promise I will return to what dual rates, etc., are all about. For now, we will ignore how our transmitter actually communicates with the receiver and focus on the relationship of servo movement to stick movement. Most servos that we use under normal circumstances will rotate 30 degrees each side of neutral with a full range of stick movement (Think of the elevator stick and servo for this discussion). If I move the elevator stick to full up, the servo wheel will rotate a full 30 degrees to the left of neutral. When I move the elevator stick full down, the servo wheel rotates 30 degrees to the right of neutral.



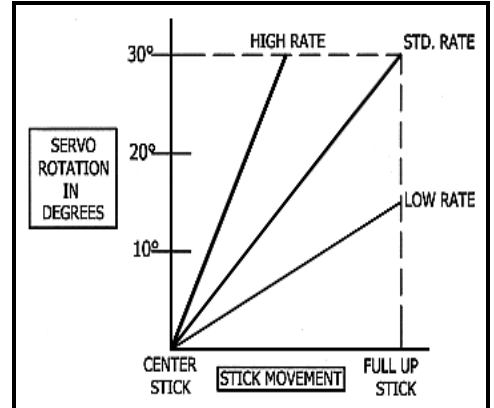
So, under unaltered conditions as the elevator stick is moved from full up to full down, the servo moves from full left to full right. If you break the stick movement down to small identical movements, each little stick movement would produce a consistent little amount of servo wheel rotation. This is the essence of what is called proportional control on our radios. On a proportional channel on our radio, the servo rotates a set amount for each incremental stick movement. (We have non-proportional channels by the way. For example a gear channel is not proportional, it is full on or full off). A better way to show the above example is to make a graph of stick movement vs. servo wheel movement. I will only show one half of the total servo movement in the graph.



Again, notice that the rotation of the servo wheel vs. stick movement follows a straight line (another reason this is called proportional control – a graph with a straight line like above signifies one variable is proportional to another  $y=2X$  is an example).

The first thing I want to discuss now is the slope of that line. The feature on your radio called dual rates is directly related to this. Dual Rates allow you to control how much the servo rotates per incre-

mental stick movement. Look at the graph below. It shows 2 lines, which correspond to high and low rates. The HI rate line is the steeper one, which shows that for each little stick movement, the servo wheel would rotate more than the standard rate. Similarly, for the Low rate line, each small stick movement would cause the servo wheel to rotate less than the standard rate line. Notice that you can alter both the total amount of servo



wheel rotation and how much wheel rotation per stick movement with dual rates.

Dual Rates is one of the most useful and easy to set up features available on almost every radio today, even entry-level radios have it. Let me explain why it is such a good feature to use, especially if you are a new pilot or are in training.

The effectiveness of a flying surface (Aileron, Elevator, and Rudder) depends (mostly) upon its area, speed of the airship, and deflection. Our servos control the deflection of the flying surface. If we keep everything constant except our surface deflection, you could argue that the more we deflect a flying surface, the more torque about the aircraft C.G. will be created (up to the stall point of the surface) – I.E. the more we move an elevator, the greater the pitch moment on the ship.

I have lost count of the number of overly “twitchy” ships I fly for students and new pilots, especially in roll. Many of us assume the more deflection we build into our ailerons the better! My first advise in these situations is to first ask if the stu-

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(Continued from page 4)

dent radio has dual rates, and if so, I show them how to set up low and high rates. Together, we then set up at least a low rate and calm the ship down for the day. I also suggest that the student mechanically reduce throw, by adjusting the clevis hookups at the servo wheel.

There are some caveats to keep in mind I discuss below, but follow me for a minute here.

The reason most ships are twitchy on roll is that way too much deflection of the ailerons is occurring. One easy way to decrease the deflection is to make a low rate on this channel equal to 50% of the standard rate. This will result in the ailerons deflection decreasing near 50% of travel (remember that our servo output is on a wheel, so 50% reduction in rotation may not equal 50% less travel in a straight line).

It is remarkable how much more enjoyable a ship can be when it flies at a comfort level that agrees with your skills.

There are some points I want to make about dual rates here though

1) Dual rates should not be used to mask improper mechanical setup. The control linkage integrity to a flying surface has high importance. You must be careful, especially on high rates, that you do not overdrive a servo into stall. If you want to see how fast you can drain a flight pack battery, put a servo in stall and watch your battery go flat in about 2 minutes, usually resulting in a spectacular landing, although not the type you will brag about.

2) Mechanically, we can increase or decrease throw of the surface via the hook up points to our servo wheel and the control horn. Generally, if you move the hook up point closer to the hinge on the horn, surface deflection will increase. Likewise, if you move the hookup point farther out on the servo wheel, surface deflection will increase. Moving the horn connect point father away, or moving servo wheel hook up point closer to center

will decrease surface deflection. One important note about this mechanical adjustment. I would NOT recommend moving the clevis closer to the hinge line on a horn to increase throw. The problem this generates is that as you move the hookup closer to the hinge line, the mechanical advantage (i.e. the torque available) to move the surface is compromised to give more throw. You could be setting a surface up for flutter and failure this way. I always attempt to set up my ships with the clevis attaching at the highest hole in the horn. If I need to add mechanical throw, I go to a bigger servo wheel or arm.

3) Dual rates are a compromise in performance. Low rates tend to make a ship softer in response and more stable to change. The negative of low rates is that for aerobatic maneuvers, larger surface deflections are needed. Hi rates supply the large surface deflections, but at the expense of making the ship more twitchy, especially around neutral. There is a better solution to this compromise, which I will discuss in a near future issue, and it is called exponential, or expo for short.

4) There are also other features of your radio that work together with dual rates that are important for you to understand and they are often called end point adjust and sub-trim. I will also describe these in detail, perhaps next month.

5) Some of you may be inclined to set your ship to fly its maiden voyage on low rates, thinking you will calm it down for the first few flights. I would not advise this. In the early stages of ringing out a new ship, you may need to make significant flight attitude changes, and you may need all the surface deflection you can get. The solution here is to calm your fingers for the first few flights, get a feel for roll rate, pitch rate, etc. then decide on dual rate settings. I would recommend 100% of manufacturer's surface deflection suggestions as your throws for maiden voyage.

6) If you are having a bit of

trouble deciding on what to use as your initial dual rates, I would suggest that for initial flights you set HI rates to 100% of travel, and set Low rates to 50%. I say this because I notice far more people set up excessive throw than not enough throw, especially in the ailerons and elevator. I also do not recommend that beginners set travel rates to greater than 100% until they have learned how to tell if a servo is stalled. The danger created from a stalled servo is a significant safety issue. A good clue to a stalled servo is a buzzing sound (unless you own some types of Futaba servos, which, in my experience, seem happy to buzz just because you're looking at them)

Dual rates offer significant help for those of you new to this fun hobby, and as one of the flight instructors, I would sure like to see more of you use them!

Keep the balsa dust flying this winter!

~Joe



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# AREA EVENTS...

## AMRCC CONTEST SCHEDULE

- MARCH 3.....SKYMASTERS..... RETIREES BREAKFAST.....BOB BURNS 248-628-4666
- MARCH 9....FLYING PILGRIMS SWAP...UAW 735 CANTON...MIKE CLAPSADLE 734-425-2562
- MARCH 12.....SKYMASTERS.....MEETING-TROY B&G CLUB.....Vince Petke "Monocote"
- MARCH 15-16...RCCD.....MALL SHOW.....(PAGE 2).....MIKE DARR 586-727-2722
- MARCH 17.....SKYMASTERS ..... RETIREES BREAKFAST.....BOB BURNS 248-628-4666
- MARCH 26.....SKYMASTERS.....MEETING LARSON....."Fibreglassing sheeted surfaces"
- APRIL 2.....RCCD "50TH ANNIVERSARY PARTY" ALL WELCOME .....ZUCCHARRO BANQUET HALL .....\$17 PER PERSON

◆ APRIL 4-5-6....."TOLEDO EXPO".....[www.toledoshow.com](http://www.toledoshow.com) ◆



# SKYMASTERS MARCH 2003

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3 Retirees Breakfast	4	5	6	7	8
9 Flying Pilgrims Swap	10	11	12 Skymasters Meeting Troy B&G	13	14	15 RCCD Mall show
16 RCCD Mall show	17 Retirees Breakfast	18	19	20	21	22
23	24	25	26 Skymasters Meeting	27	28	29
30	31					

# SKYMASTERS "2003"

## EVENT SCHEDULE

<b><u>April 19</u></b> <i>(Saturday!)</i>	<b><i>Bald Mountain Involvement Day</i></b> - Bald Mountain Park Headquarters. A great start to Spring. Come out and volunteer to help our park prepare for the summer season. There are light jobs & heavy jobs and everything in between. Gary Weaks (248) 540-8358
<b><u>May 17</u></b>	<b><i>Chet Brady Memorial Float Fly</i></b> - Seven Lakes State Park, Holly. AMA. Our first Float Fly Event of the year. It adds a whole new dimension when flying from water - it's also great to watch. Flying starts at 9:30 AM. Pete Foss (248) 236-0676
<b><u>May 18</u></b>	<b><i>Bald Mountain Float Fly</i></b> - Bald Mountain Recreation Area, Trout Lake. AMA. The beach will be closed, and the planes will take the place of bathers. Another fun day float flying! <i>The Scripps Road Field will be closed for this event.</i> Ross Jones (248) 738-4435
<b><u>June 7</u></b> <i>(Saturday!)</i>	<b><i>Small Fry, Electric, and Sailplane</i></b> - Scripps Road Field. AMA. Electric's & Gliders or any plane with a 2 cycle engine to .25; 4 cycle to .30 (tow planes any size welcome) High Start, Power Pod, or Tow for Gliders. Pete Foss (248) 236-0676
<b><u>July 13</u></b>	<b><i>Team Fun Fly</i></b> - Scripps Road Field. Even if you don't fly you got to see this one! Lots of exciting flying events, lots of fun, and even some prizes. There are categories for intermediate pilots and experts (using purpose designed fun-fly airplanes.) Need a teammate, we'll find one for you! Dave Wendt (248) 969-8738
<b><u>August 3</u></b>	<b><i>Harold "Big H" Maseles Warbirds and Scale</i></b> - Scripps Road Field. AMA There's lots of variety in the air and on the ground, P51's to Tiger Moths, Cessnas to Tomcats. Come see Military and Civilian scale planes. Joe Finkelstine (248) 375-0530
<b><u>August 24</u></b>	<b><i>Corn Roast and Top Gun</i></b> - Scripps Road Field. This is the club event of the year with our annual 'Top Gun' pilot competition. A field full of aircraft and some great flying & great food! A Excellent day out for all club members, their families, and our neighbors. Ross Jones (248) 738-4435
<b><u>September 6-7</u></b>	<b><i>Midwest Regional Float Fly</i></b> - Island Lake State Park, Brighton. AMA. This is the Largest float fly in the Country! Over a 100 Float flyers from all over the Midwest bring all sizes, shapes, and color of aircraft imaginable and fly them for two days solid. A blast! Flying starts at 9:30 AM both days! Bob Donohue (248) 391-1385
<b><u>October 11</u></b>	<b><i>Kids' Day</i></b> - Friendship Park, Lake Orion. We are Joining Orion Townships " <i>Barn Daze</i> " for 2003. Come and try R/C flying. Trainer aircraft and instructors will be available to guide the kids through a short flight of a real R/C aircraft. Gary Weaks (248) 540-8358
<b><u>December 31</u></b> <i>(Wednesday)</i>	<b><i>Krazy Snow Fly</i></b> - Scripps Road Field. AMA. Come and give your planes and winter clothes an outing. There's plenty of hot food and drinks, a fire, and some 'cool' flying. The more snow, the better! Paul Zabawa (810) 678-3332

Event Flying starts at 10 AM unless noted.

Noise Limit of **94 dB at 10 feet** for all Bald Mountain Events

All State Park Events require daily or annual State Park Motor Vehicle Permit (available at events)



# SKYMASTERS RADIO CONTROL CLUB OF MICHIGAN

**Mark Smith**  
1955 Hopefield Rd.  
Lake Orion, MI. 48359

Web site: [www.skymasters.org](http://www.skymasters.org)  
Email: [skymasters@geocities.com](mailto:skymasters@geocities.com)



## UPCOMING EVENTS

- MARCH 2.....RETIREES BREAKFAST
- MARCH 9.....FLYING PILGRIMS SWAP
- MARCH 12.....SKYMASTER MEETING
- MARCH 15-16.....RCCD MALL SHOW
- MARCH 17.....RETIREES BREAKFAST
- MARCH 26..... SKYMASTER MEETING
- APRIL 2.....RCCD "50TH PARTY"
- APRIL 4-5-6.....TOLEDO EXPO

## Skymasters Information.....

Skymaster's field is located within the Bald Mountain State Park on Scripps Road (see map). State Park Permits are required and can be obtained from the Park Headquarters located on Greenshield Road or at club events. Flying is permitted from 10 AM to 8 PM. The noise limit for 2003 is 94 dBa at 10 feet—this noise rule is strictly enforced.

In the summer, Wednesday evenings are Student

Nights and there are usually instructors around all day. Student night is also a pot luck buffet, bring something for the grill & a dish to pass. Meet the Instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Ron Sokacz (810) 977-1404.

From June to August, Club meetings are held at the field, on the first Saturday of the month at 12

Noon. A great chance to fly and socialize. Winter meetings—September to May—are held at Larson Middle School (on Long Lake just east of John R—see map). On the second and fourth Wednesday of the month at 7:30 PM. Bring a model for Show and Tell, enjoy coffee with donuts and listen to the speaker of the evening.

The Skywriter newsletter is sent to members, local hobby shops, and other R/C clubs in the area and around the country. All contributions are welcome. Please send articles to the Editor. If you know of anyone who may be interested in R/C Aviation, please give them a copy of this newsletter or a copy of an AMA magazine. It may spark their interest!

