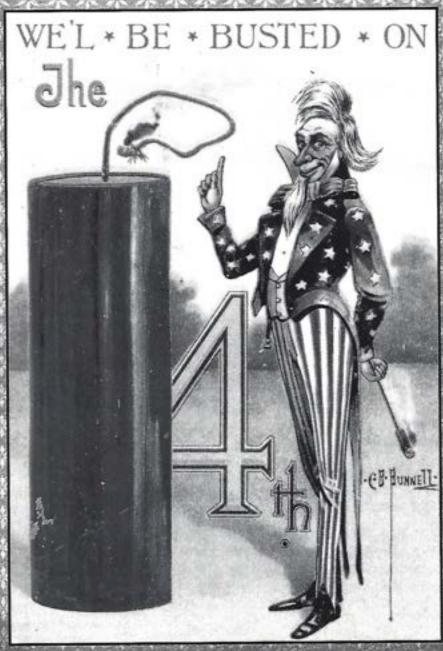


Newsletter Volume 9 - Number 3 - January 1998



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Top 10 Things Not to Say to the Fire Marshal

by Steve Rhoads

- 1) Does this look like a 3" or 5" shell?....We can't tell.
- 2) Can we take all the duds home with us?
- 3) Which way do you want us to point these tuble thingles?
- 4) Where do you want all the duds to land?
- 6) This one doesn't have an arrow on it. Can you tell which way it goes in the Hole?
- If you hear someone say "Fire in the hole", its ok......Were having some of Dave Secords chill at our funch break.
- 8) We ended up with a few extras and we were wondering if you want us to double-up some in the same gun?
- 9) Hey, when we're done setting up, do you want to pop a few brews with us before the show?

Wondering what happened to number 10. We are so sure that you can think of a better one than us, we left number 10 up to you. Think of number 10 and we will publish a new list of fire marshal no no's made up by our sophisticated readers. Cm'on it'll be fun. Send your fire marshal comments by E-mail to: sean@pyrotechnics.org or give Sean a call or mail it. In addition to our fire marshal no no list we will also be holding a contest every month for the best pyro photo and caption to go with it. The winner each month will get his cool photo and caption in the newsletter as well as a cool prize. All photos will be mailed back to their rightful owners but we do ask that you enclose a stamp if you can.

Send fire marshal no no's and pyro photos to: Sean Hale 27530 Sycamore Creek Dr. Valencia CA 91354 (805) 297-1085 E-mail: sean@pyrotechnics.org Web Site: www.wpa.pyrotechnics.org

BRING YOUR STARS TO WINTER BLAST FOR FREE COLOR ANALYSIS.

Well heres one that you don't see every day, free spectral data. At the 1998 Western Winter Blast, Ken Kosanke and Clive Jennings-White will have commercial instruments to produce detailed information regarding colored flames. Anyone supplying stars for testing, can have spectral data and chromaticity values produced for for their stars. A time and place for the testing will be announced at the Western Winter Blast.



Blast Registration Info

By the time you read this, we will be just weeks away from the Winter Blast. Those of us who will be attending can hardly contain our excitement because, for most of us, this is OUR 4th of July!

I have a few important items I would like to mention to those who will be attending. If you have registered for the Blast there should have been a letter included
with this news letter. If there wasn't, please call me ASAP!

Many registrants have made mistakes calculating their total due. The letter
included will show if there is a balance due. Please take care of any
discrepancies before the Blast to avoid delays at the registration booth.

The registration booth hours are as follows: Friday: 8:30 a.m. until 2:00 p.m. at the flea market. 3:00 p.m. until 10:00 p.m. at the shooting site.

Saturday: 8:30 a.m. until 2:00 p.m. at the flea market. 3:00 p.m. until 10:00 p.m. at the shooting site.

PLEASE NOTE: No new registrations will be accepted at the shooting site. Shooting site registration is for badge and packet pick-up ONLY. If you do not pre-register, there WILL NOT be a packet or badge at the site for you. See us at the flea market booth between 8:30 and 2:00 for new registration I have received hundreds of phone calls, listed below are some answers to the most asked questions:

YES.... you MUST be a member to attend the Blast.

NO.... A "FRIEND" does not qualify as a family member and may not register as a guest. No overnight parking of motor homes at the site. If you do not purchase BBQ tickets in advance, you will pay more on site.

If your having trouble finding hotel accommodation, try Laughlin, NV.

LOOKING FORWARD TO SEEING ALL OF YOU AGAIN!!!!!!!

--STEVE RHOADS

Kid in a Candy store

By Sean Hale

Don't you just love to see the look on someone's face who has never been to a fireworks convention walk into the class "C" tent. I don't know about you, but

seeing all those fireworks piled up is a pretty mouth watering site. If you are coming to the blast for the first time, then you'll know what I mean when you see it. The class "C" area always has that certain fireworks smell in it. One time I laughed at Richard Cole for putting a pyrotechnic device to his nose and smelling it. His reply was, "What! don't you ever smell fireworks." This would imply that everyone must smell fireworks. Well since then I have



taken every opportunity to smell my fireworks before I light them. After all, once their gone... their gone, so why not savor the moment. In fact, I'll bet if you got a guy like Clive Jennings White to smell your fireworks for you, he could probably tell you the exact chemical content as well as parts by percentage of each one. OK so he missed the zirconium... nobodies perfect. Anyway, to get you in the mood for class "C" I thought I might publish a few fireworks pictures for your viewing enjoyment.





Pyro on the Internet

For those of you on the internet, you no doubt have done some pyro surfing. Pyrotechnic related internet sites are cropping up like wild flowers, (or should I say chrysanthemums). One of my favorite pages is the "Pyrotechnic Formula Page," posted by Andrew Krywonizka. This site contains hundreds of recipes for pyrotechnic compositions. This page is an excellent quick reference for star formulations and others. The url for this site is: http://www.autobahn.mb.ca/~gryphon/formula_top.html. Now when it comes to starting points for pyro on the internet, there's nothing better than Tom Dimock's Pyro Page:

http://tad1.cit.comell.edu/Tom/Pyro/MyPyro.html

This guy has a complete and organized list of gazzilions of pyrotechnic related links ranging from supplies to display companies, clubs, publishers, Pop Tart blow torches, and even anti fireworks web sites. You could easily spend a whole week just following these links to the far reaches of the pyro universe. Looking for some pyro supplies? You better check the internet for this weeks latest specials before you place your order. I also might want to mention that the WPA itself has a very nice home page. I should know, I made it. I will do my best to keep it updated and to put new photos and news up as it occurs. To get there just type wpa.pyrotechnics.org into your web browser. Another good page to check out is Bob Weavers page at: http://sd.znet.com/~rjweaver/fireworks.html He publishes a great fireworks buyers guide and has some great information on laws and permits regarding fireworks. Another great fireworks happening on the internet is the Pyro mailing list. Basically you subscribe to the list and every day you get an e-mail containing pyro discussions as well as question and answer from all the other members of the list. You can then respond on the list and put in your two cents worth. This is very cool, reading this list every day provides a wealth of continuous information. One time I posted a question on how to make go-getters and a guy faxed me go-getter directions and formula. In fact I got 3 different techniques sent to me. Wowl Ain't that a peach! Not everybody can be on this list, if you are interested in subscribing you must send an e-mail to the administrator and ask to subscribe as well as convince him that you are not an idiot. The E-Mail to request a subscription is Admn@vnet.net.

Next time your on the internet, be sure to do some cool pyro surfing and drop me an e-mail and introduce yourself. As publications VP, it's my job to be the gossip for the club and to know as many of the WPA members as possible. My e-mail is: sean@pyrotechnics.org now that's pretty easy to remember, it is now permanently imprinted on your brain. While we are in the introduction department, be sure and say hi to me at Winter Blast, I'll be the one with the bitchen fireworks...uh oh.... I hope.
--Later

Arizona Fireworks Shoots

Now here is the kind of press release the WPA and it's members like to see.

Longtime WPA member Judd Herberger has purchased a 40 acre site just West of Phoenix and intends to hold private shoots for Arizona Pyros several times per year. Shoots will be done with a permit, so you can launch shells without fear of being outside the law.

If you want an invitation to a future shoot, just write, call ,or fax Judd your address.

Several sizes of mortars are going to be buried on the site and blasting cable is being run to them for remote electric firing. Other improvements include a concrete slab with a fireplace and Bar-B-Que pit.

Judd Herberger 10811 N. Scottsdale Rd. #200 Scottsdale AZ 85254

Phone: (602) 945-4516 Fax: (602) 945-4744







A Letter From the President

Dear Members.

I specially wish to thank each of the officers and other volunteers for donating their evenings, weekends and other time to ensure the success of our club. Thanks for all the efforts in registration, newsletters, convention services and public display coordination. We have gone a long way and the end result is only days away. Virtually all hotels in town are sold out. Even our room blocks are almost totally depleted.

After meeting with Lake Havasu City representatives and filing all our permits with we are right on track with Winter Blast IX. Thanks to the efforts of our volunteers, we have located possibly the only barges in town for our public display (and most are free). Wendel Brezina has put us in contact with local volunteer labor. Tom Delzio of the Havasu fire department has also played a key local role in finding what we need and meeting the right people. The local yacht club will be providing patrol services during our Sunday public display. Local police enforcement will assist in maintaining spectators a safe distance from the London Bridge display on Saturday. This display is expected to start at 10:30pm on Saturday and will be a stones throw from our afterglow site at Shugrues. By the way, I have heard a rumor that London Bridge may be falling down during our show. Could it be that the city wants it leveled? I will have to check my sources!

I have received a bid from Mesquite for WB X and expect to receive a proposal from the AVI Mesquite can accommodate all our members in one hotel with a fine convention and display site. AVI has nearby hotels in Laughlin and the possibility of a great shoot site. We will review all offerings we receive.

To encourage officer nominations to help defray the costs of providing many hours to the WPA I am proposing an annual stipend for our officers and designated support positions (subject to available funds). Further details will be available at our general meeting. Thanks again for all your efforts and for your support. C YA at the Blast!

Respectfully Submitted.

Glenn R. Vodhanel, WPA President

A Few Winter Blast Seminars

I wish I could provide a more complete list of Winter Blast seminars, but with plans evolving and unfolding every day as the Blast draws near, I can only tell you what I know so far. If you visit the WPA web site at: wpa.pyrotechnics.org, I will post up to the minute blast information. In fact, by the time you read this, that information will probably already be at the site.

Blue Strobe Rockets - by Doc Barr

Round Shells - by Dr. Dan Howlett

36" and 24" Japanese Shells - by Devon Dickenson

Mini Lampares - by Bruce Blom

Electric Firing Systems - by Lunatech

PGI Shooter Certification Course - ???

Shell Seminar - Tim Stockton

That's all I know so far, if I have misspelled any names or did not accurately described your seminar, I am sorry. The newsletter goes out tomorrow and I got this information from a brief phone call to the Vice President. Like I said, check the web site when you read this for more info.



The "Big String" at Winter Blast IX

The WPA would like to take this opportunity to thank Tom Cloud, our very own secretaries husband, for arranging to bring a 1 million firecracker string to the Winter Blast this year. He has devised a clever way to set up and fire the "Big String" and will be heading up a hands on big string seminar. Attend his seminar and tell all your friends that you helped set up a 1 million string of firecrackers over the weekend... then ask them what they did over the weekend. Your story will surely blow theirs out of the water and you will once again defeat your mundane co-workers.

There will be raffle tickets sold to be the lucky guy to light this monstrosity for \$2 each. If you buy \$20 dollars worth of raffle tickets you will get a very cool commemorative 1 million cracker brick label that Tom had specially designed. The label looks cool too. I hope everybody keeps in mind that the WPA has had a rough year financially and we want to bounce back strong for next year. We have all kinds of cool stuff planned for our members through 1998 so be supportive if you can.

While we are on the subject of thanking Torn Grace, I might also want to mention that he sent me a considerable collection of antique 4th of July postcards like the one on the cover of this issue to scan in and use for future newsletter covers. Now he actually sent me the original postcards in the mail and this was his prized collection. Thank you Tom for going

the extra mile for the WPA and I'm glad your postcards made it back to you safe and sound. I must say that some of these postcards are really cool and unique so be looking forward to seeing them on future covers of the WPA newsletter. But why wait till another newsletter to see one. Here's another one right now.

-- Take Care and light that superstring.



Formula of the Month

by-Anonymous

It's funny how when you read an old pyrotechnic formula that uses aluminum, you never get mesh size information, or whether it is spherical or flake. If you do a little tinkering then you know doubt have collected a pretty good sampling of different types of aluminum. Sometimes this can lead to some pretty good star formulas. Substituting a few different kinds of aluminum, (lets say flake, granular, and spherical) can give some interesting lush and thick white to golden white tails. Below is a modification of an old aluminum formula which uses 3 kinds of aluminum. I usually try to keep larger aluminum flake percentages low because they take forever and a day to dry and they don't dry very hard either. When rolling stars that have larger aluminum flake, it is best to start rolling on cores that are already up to a 1/4 inch. Obviously rolling a comp containing 16-36 mesh flake wouldn't work out too well on a rape seed. The mixture below gives a mostly brilliant white with a slight golden tint to the tail due to the addition of meal powder. I had originally tried the formula without the meal powder, although it was pure blinding white, it was very difficult to ignite and burned much too slow. This was probably due to large particle size of the aluminum not causing enough of a reaction with the oxidizer. I suppose increasing the German Black and decreasing the 50-100m aluminum might increase the burn rate, I chose the easy way out and just added meal. I knew I would get better ignition and guaranteed burning speed. Also included is a hot prime mixture originally given to me years ago by a fellow WPA member. It's a great prime because it burns hot enough to light even the most difficult stars, it binds with water/alcohol, and it ignites easy. I was told that you don't need to finnish this prime with meal, but I do anyway just to be sure.

White "Polar Bear" Stars

Barium Nitrate=55
Potassium Nitrate=13
Aluminum (German Black)=9
Aluminum 50-100m Granular=9
Aluminum 325m flake=3
Titanium 60m=2
Sulphur=4
Boric Acid=1
Dextrin=6
Meal Powder=25
(Roll or cut using 25%
isopropal alcohol in water)

Super Prime

Potassium Perchlorate=290
Charcoal (airfloat)=105
Potassium Dichromate=20
Magnalium 200M=20
Wood Flour (fine sawdust)=25
Red Iron Oxide=20
Dextrin=20
(Bind with 25%
isopropal alcohol in water

A Letter From Your Publications VP

by Sean Hale

Well it looks like it's coming again, another Winter Blast. It's time to pack up the old pyro bag and head on out to Havasu. It's been both a pleasure and sometimes not a pleasure to be your publications VP this year. I enjoy making all the graphics for the newsletter and I enjoyed putting a new web site together for the WPA, but I have to say that getting a newsletter together is more of a task than I had anticipated. For starters it is very difficult to get contributions for the newsletter from the membership. Sure everyone says they will send something in, but so far the only contributors are the officers and the Kosankes. I guess I have been able to fill up the newsletters with something but I want to strive to get more hands on pyro related articles in the newsletter. I ask that WPA members make a resolution this year to send something in for the newsletter. Now I know what's going through your mind right now... someone else will send something in.... I don't have the time... I can't write worth a @#%*!." Just try and remember that if you liked the Winter Blast and enjoy being a WPA member, then maybe you could give a little support. OK that's it for the pathetic begging and groveling, next I'm sending a leg breaker out to each members house to collect literature. Look out baby.

Now on to bigger and better things, packing your bags for the Blast. When you pack your bags all you really need is one pair of jeans, a few shirts with free pyrotechnic advertising on it, and maybe a jacket and a pyro hat. The rest of your luggage should be filled with cool pyro stuff like end cutters and hammers. masking tape, blow torch, sunscreen, flashlights, walkie talkies, bailing wire, safety glasses, ear plugs (optional), and whatever else you can think of that's pyro related. You really don't need to eat while your there. A human can easily go for a week without food and this is only 3 days. Wouldn't you agree that it's much better to spend your money on pyrotechnic supplies and fireworks. Speaking of things to bring to the Blast, BRING LAWN CHAIRS. Imprint this in your mind so that when you are gathering your things you will remember them when you are packing. The ground at Spectator Point is very rocky and we don't have bleachers to sit in for the public display like we did last time. I did hear some talk about renting chairs for our members but I don't know for sure if we are and or how many. Better a safe but than a sorry but. I do think it will be nice to be right on the water for our Winter Blast this year as far as scenery goes but we will also be closer to town as well, since the area will not be a completely fenced area like Sara Park was in the past, I think everybody should keep an eye out for people who have slipped past security and snuck into the Blast. After all, they won't have cool color hanging name badges like us and they certainly don't deserve to be among the few, the proud, the pyros. I hope everybody has a great and safe time at the Blast this year.

See you there!





Quick Match: Hangfires and Misfires

K.L. & B.J. Kosanke

Probably the most notable malfunctions of quick match, especially when used as aerial shell leaders, are hanglires and misfires.

Hangfire - A fuse ... which continues to glow or burn slowly instead of burning at its normal speed. Such a fuse may suddenly resume burning at its normal rate after a long delay. ... If the hangfire goes completely out (is extinguished), it is termed a misfire.[1]

An aerial shell hangfire is hazardous because of its unpredictability. The shell could fire at any time, up to a limit reputed to be about 30 minutes. An aerial shell misfire is a problem because of the necessity to eventually unload the mortar. It is not the purpose of this article to discuss how these malfunctions should be handled once they occur, but rather some things that might be done by the shell manufacturer and display operator to reduce the likelihood of their occurrence.

In earlier articles in this series, the effect of individual performance risk factors (fire path closure, powder loss, and high humidity) were examined for high quality quick match. Under the conditions of these tests, no single risk factor was observed to cause the failure of the quick match. However, in the previous article, the effect of some combinations of risk factors was sufficient to cause malfunctions. If these results are generally applicable, a solution to hangfires and misfires is to eliminate situations where multiple risk factors could occur. Of course, the most reliable way to accomplish this is to avoid even the individual risk factors as much as practical.

In the normal course of its use, it is necessary to make connections to lengths of quick match; for example, when attaching shell leaders to the top of cylindrical shells or to plastic bags of lift powder, and when chain-fusing aerial shells. It is typical to use string or other ties around the quick match when this is done. The strength of the attachment (that which keeps the connection from pulling apart) is a result of the tightness of the string tie. It was demonstrated previously that a tight tie at a point where there is serious damage to the coating on the black match can cause a malfunction (especially when the quick match has also been exposed to high humidity). However, there are measures that can be taken to limit this potential problem.

Some manufacturers insert a short length of black match into the end of the quick match where a tie will be made. This accomplishes two things. Assuming the inserted black match is in good condition, it is assured that at least that piece of black match will have a good powder coating where the tie will be made. Also, with two side-by-side pieces of black match, it is nearly assured that even a tight tie will not completely close the fire path between them.

Some manufacturers do not rely on tight ties to hold quick match to finale chain

(Hanglires Continued)

buckets or to top-fused aerial shells. Rather they use a combination of a moderately snug tie (a less than completely tight tie) and a small amount of white glue or wheat paste applied to the paper at the point of connection. In addition to reducing the likelihood of completely closing the fire path of the quick match, this provides a strong and reliable connection (not likely to be pulled apart accidentally). Note that a strong coupling can have important safety ramifications. An undetected partial slippage of the shell leader from the its point of connection to a top-fused shell can cause a hangfire or misfire. Similarly, when a finale chain pulls apart while firing, it may cease firing, typically causing someone to approach and reignite the chain.

During the summer months, exposure to high humidity may be inescapable. With high quality materials and manufacturing techniques, this alone may be unlikely to cause malfunctions. However, exposure to high humidity has seriously deleterious effects when combined with other quick match performance risk factors. Thus, as a minimum, nothing should be done to exacerbate the situation. Magazines should be kept as dry as practical, particularly if the aerial shells are not of the highest quality. At the display site too, measures should be taken to limit exposure to high humidity. For example, boxes of aerial shells should not be placed directly on the ground for long periods of time, and most certainly they should not be placed on the ground and then covered with a tarp.

The testing that was performed for these articles, used only high quality quick match. Thus the results reported in these articles can not be assumed to apply to lower quality material. For example, it was observed that even moderately severe damage to the powder coating on the black match, in the absence of exposure high humidity, did not result in propagation failures. It is likely that this is a result of one characteristic of high quality quick match, that its black match is made using multiple strands of string, each of which is well coated with composition before being drawn together to form the black match. To the contrary, in recent years some of the aerial shells imported from China have used a single coarse cord for the black match, which is only coated on its outside, and to which there is rather poor adhesion of the powder. It would not be expected that this product would be as forgiving with respect to rough handling, especially in conjunction with any other risk factors.

In addition to those things a shell manufacturer and display operator might do to help reduce the likelihood of hangfires and misfires, there may be some things that the quick match manufacturer might do to make their product less susceptible to these problems. Some of these will be discussed in the next article.

References:

 The Illustrated Dictionary of Pyrotechnics, Journal of Pyrotechnics (1995), p. 59, 79.







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AMANA HAPPENINGS '97 VIDEO

See the tape your pyro friends are already talking about, "Amana Happenings '97." It's a corefully edited, 115 minute video of last summar's premiere fireworks event, set in Americas heartland.

See your fellow pyros at registration, in the trade show and in the class "C" shooting areas. See the chemical and "C" sales building interiors, many of the demas and some competition. See accepts from many of the seminars, the Circus setpiace and whistle dema, the 36" martar, unveiling of the 36" shell, as well as shooting the 36 itself.

See many of the demos in the Theatre of Fire" as they were meant to be seen, in full VHS Hi-Fi stereo, with no annoying cuts in the musical scere. Yes, Jack Harvey's "Dreams 2" is included. Awasome! See the megastring outlion and the complete firing. Pal and Secam conversions available at additional cost. Professionally duplicated in VHS standard speed to insure the best color and video quality. Perhaps the loss pyro video bargain of the decade at \$20.00. Priority mailing to your door included. All net proceeds from this video go to the pyrotechnic artists of lexas, "The Jexas Fireants."

Send your check or money order to:

Ken Barton B18 Shorehaven Dr. Garland TX 75040

E-Mail: kjb46@flashnet.net See our web site:

FREE DELIVERY TO THE WESTERN WINTER BLAST

on orders placed before February 10th!

We will have a good selection of chemicals, paper and plastic supplies, ignition materials, tooling, literature, etc. in the class C sales area.

CONVENTION SPECIALS:

COLUMN TO THE PROPERTY OF THE		
Potassium Perchlorate	- 250 lb drums (2)	@ \$ 2.00/lb
Potassium Perchlorate	- 50 lb buckets	@ \$ 2.50/lb
Ammonium Perchlorate, 200 micron	- 50 lb buckets	@ \$ 3.75/lb
Aluminum, atomized -325 mesh	- 50 lb buckets	@ \$ 3.00/Ib
Aluminum, flake 40-270 mesh	- 10 lb box	@ \$ 3.90/lb
Red Lead Tetroxide	- 5 lbs	@ \$ 3.00/lb
PBAN polymer	 5 gal bucket 	@ \$38.00/ea
R-45M Polybutadiene (dark)	- 5 gal bucket	@ \$99.00/ea

- - - More specials at the convention - - -

Firefox Enterprises Inc. - firefox@pcaxxess.net http://www.pcaxxess.net/~firefox - (208) 237-1976

FREE DELIVERY TO WESTERN WINTER BLAST!

Class C (1.4G) orders taken until February 1.

Need a lot of one item? -- Order early. (Early orders get special discount.

Gary Lillich Flash! Fireworks Office (316)788-5801 FAX (316) 788-5869 14 Madapalla Ct. Derby, KS 67037-9516 Warehouse (785)734-2464 Warehouse FAX 734-2299

E-mail: "flashm@cxo.com" or "flashmarket@usfarm.net"

WPA Jackets

Be the first on your block to be hip and cool with these black satin WPA jackets. The back has 6 color embroidery of shell bursts, and the front has your name embroidered in gold. The price of the Base price of the Jackets are \$59.50. Since these jackets are made special, a minimum of six jackets need to be ordered before we can have them made. If you are interested, call Forrest Rhoads at (714) 640-5395.

Or send check or money order to: Forrest Rhoads 2230 Aralia St. Newport Beach CA 92660

Make check or money order payable to:
Western Pyrotechnic Association.
Additional charges are as follows:
Your name stitched on front - add \$2.50
XX size - add \$2.50
XXX size- add \$4.00
Please add \$4.00 for shipping per jacket ordered.



WPA Membership

If you know someone who would like to become a WPA member, or would like to renew your membership, contact the WPA secretary, Steve Rhoads. His number is (909) 685-2968. New Membership is \$50 and renewal is \$35 this year only (next year renewals will drop back down to \$30). Membership is required to attend WPA events.

"...and the sign says you got to have a membership card to get inside...uh"



