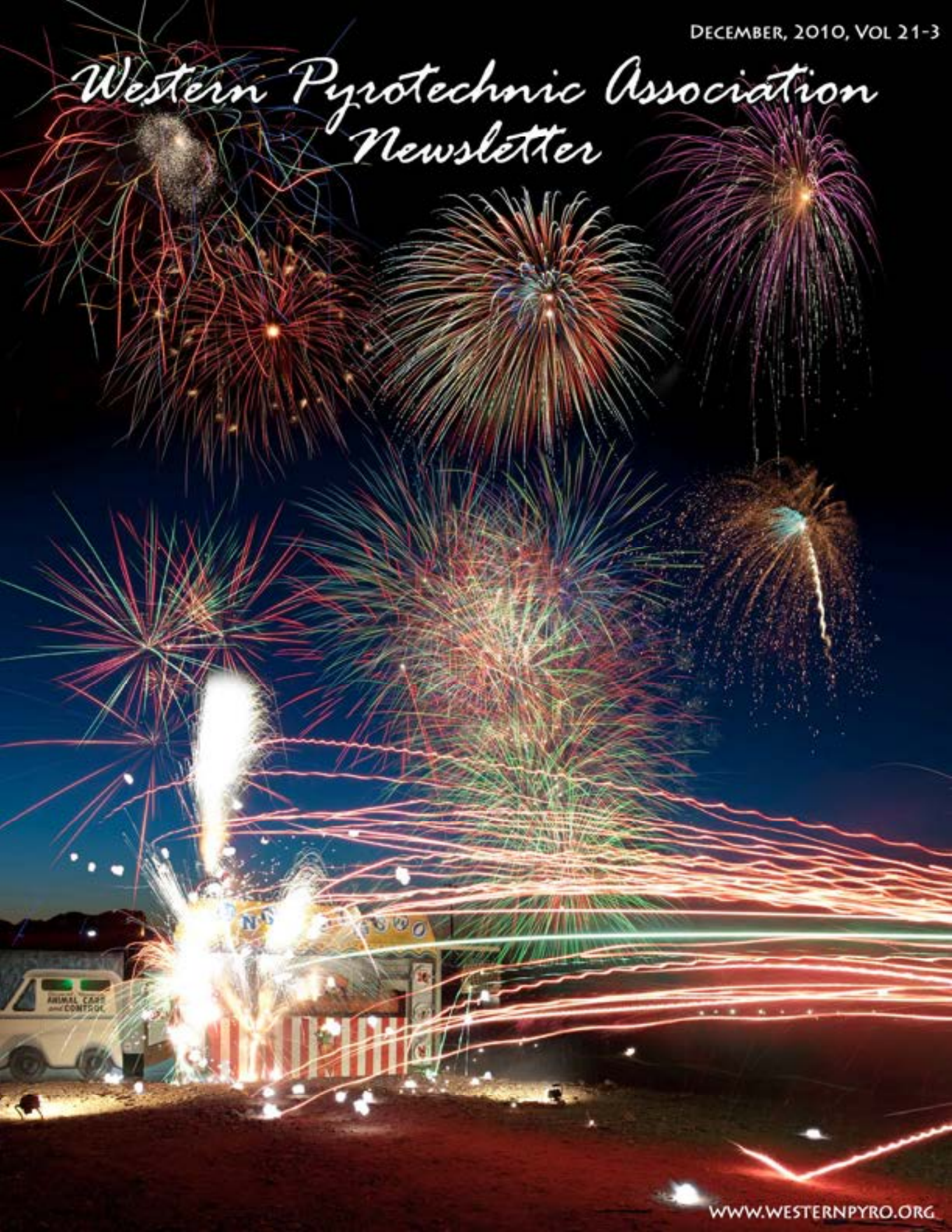


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To receive a catalog or request information,
please call or email. Ask for Jim or Becky on
1.4G and or Glen for 1.3G.

WPA Newsletter, Volume 21, Issue 3

June, 2010
Volume 21, Issue 3

Western Pyrotechnics Association
P.O. Box 990
Fontana, CA 92664
E-mail: Tom@WesternPyro.org

Special Issue

By **Tom Calderwood**, V.P. Publications

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One of the hot topics of the 2010 Annual Business Meeting was the issue of allowing certain teenagers (minors) into manufacturing. We will be voting on this at our 2011 meeting and I wanted to be sure everyone had a chance to see what we're proposing. On the WPA mailing list, I asked for people to give input both pro and con. *All* responses are here. (There really weren't that many who replied, but I believe they do make up a reasonably representative view of the group.)

The rest will be up to you—and I encourage you VERY MUCH to go to this year's business meeting. It is a good example of how you, the membership of the WPA, can give guidance and direction to the club.

Also in this newsletter is a note from Bob Forward on making your very own "Electro-Combusting Initiators". Good article with good pictures.

I'm also including an article from the Kosanke's (with their permission—thank you Gary Burg!) on timing of delay fuses for ball shells. Some very good info here.

I do hope you can make it to WinterBlast—the premiere event for the WPA! It takes a LOT of people to make this event work, and I count it a privilege to call a lot of these folks friends.

Come on out, cook in the sun, freeze in the dark, light up the sky and eat your yearly allotment of BBQ. Swap stories and lies at the after glow, but above all, ENJOY THE PYRO!

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What's Happening?

By **Pete Wood**, WPA President 2011

GREETINGS and HAPPY NEW YEAR!

Once again, we will all be celebrating under the sunny skies of Lake Havasu City, AZ for our 22nd year! It seems not so long ago, that I attended my first WWB (1996) but still, I can't help feel the excitement and anticipation building as if it were my first Winter Blast!

Want to start the party early? Come out to Sara Park on Wednesday morning (9:00 AM) and come to the equipment containers. We start set up then and can use all the help we can get. The sooner we get set up, the sooner we can open registration on Thursday. Then come join us earlybirds for food and beverages on Wednesday night at Mudsharks! It's located directly across the street (HWY 95) from the host hotel. Kief will take \$15 dollars from you and then it's free beer, soft drinks and various food items. You want more than beer? Well that's on you at the cash bar inside. It's a great time to catch up with acquaintances that you haven't seen since the last WWB, so come join us and enjoy!

We have a great lineup of display and demo presenters this year. This year's Public Display will be performed by Extreme Pyrotechnics out of Mansfield, Texas and after seeing their demo's last year, I'm anxious to see what they have in store for all of us on Saturday night! More demos and displays are planned and will be announced as soon as we have the completed schedule. As of right now, here's what I've got – Saturday – A demo by Wolverine West, the PD by Extreme Pyrotechnics. Sunday – Member built shells (?) and the closing show will be a tribute to past member Jill Salverson, put on by Pyro Spectaculars.

Thursday and Friday is (currently) dark sky, so there should be plenty of time for the members to shoot manufactured items, class C and class B to their hearts content. My advice? Make good use of it!

In addition to our nightly demo's and displays, we have an assortment of seminars including shell building, PGI Shooter Certification, various AV presentations and more – too numerous to list all here. You will be able to get a full listing of all the various activities in your event program, when you pick up your registration materials. Make sure to check them all out!

At our General Business Meeting on Sunday February 20th, at the Aquatic Center which is located just south of the Host

Hotel and located on the West side of 95, we will be voting on the issue of allowing minors in manufacturing, which was presented last year during the Business Meeting. Basically, in a nutshell, this proposed issue would allow our younger members to take part in specified manufacturing activities and seminars, while accompanied by his or her parent or legal guardian. This would apply to our members' minor children, who are at a minimum, 13 years of age.

Also, at the Business meeting, we will be holding elections for the Board positions of Secretary and Vice President. These are two-year terms for both positions. If you have the desire and time to undertake either position, now's your chance to get more involved in the everyday workings of the WPA. Also up for grabs are the positions of all Area VP's. Only members who currently reside in these geographic areas can vote for the candidate running for that position.

We will be presenting this year a Life Member award to an individual for their contributions and dedication over the years to the WPA. I consider the club to be extremely fortunate to have these individuals, past and present, which have either received a life member award or are about to. Their dedication and involvement behind the scenes is what allows the club to function and prosper. Without these individuals commitment, it would make for a much harder process year to year. Please join us to honor and express our thanks to this individual for their efforts.

While I'm on the topic of thanking individuals for their efforts, I would like to take a minute here and personally thank Don Oesterle and John Noonan for their time and efforts to create a newly updated and more comprehensive membership database, for the WPA Board of Directors.

While this doesn't necessarily aid the general membership, it's a greatly needed and appreciated upgrade for those serving on the Board of Directors. Don and John have spent many hours of their time, without reward or compensation, to create this database and I thank them sincerely for their dedication and willingness to do so.

Don't forget the WPA Auction! It's held on site in the bleachers on Saturday morning at approx. 10:00 AM. This is a great opportunity to get rid of items that you can't remember where they came from or what the heck they are! Need a safe and convenient way to get rid of those unwanted chem's or an old blasting box? An old charcoal retort that the wife wants out of the

living room (and for the life of you, you still can't understand why?) Bring them to the auction on Saturday morning between 9:30 – 9:45 AM, and hand them over to Kief. He'll do his magic and turn it into cash, which will get donated back to the club. It's a great fundraising event for the club and a lot of fun to boot. For more info on the auction, contact Kief at - kief@sbcglobal.net and he'll be happy to answer your questions.

During the day, you can spend time at the WPA Trade Show, which once again, will be held on site across from the BIG Class C tent. Many vendors will be in attendance with most anything your pyrotechnic heart could want or desire. A great place to get a WWBXXII theme t-shirt or many other items for that Valentines Day gift you promised your loved one in return for being able to attend the event! Firing systems, videos and DVD's, Industry Insurance Specialists, collectibles, and all sorts of pyro-phenalia that you might miss out on otherwise. Check it out!

FIREWORKS!!! What a concept! Visit the Class C tent (a supermarket of pyro pleasures!)

If you can't find a fireworks item that will dazzle the senses, then you're not looking! Then walk out of the tent and head for the Class C shooting area to enjoy the wonderment of your purchases!

It's what brings out the "kid" in all of us and helps us stay young (at heart). It also helps the vendors who travel long distances to provide us with our wishes.

For those wanting a bigger bang for their buck, you can pre-order Class B fireworks from Flying Phoenix Fireworks or Extreme Pyrotechnics. Their contact information can be found on the WPA website (www.westernpyro.org). Catalogs of available product can be found there as well. All you have to do is click on the link and either download the catalog or fill out the order form on line. It doesn't get any easier! As is true with all of our vendors, they depend on your support – just as we depend on theirs' so dust off the credit card, cash in the kids inheritance and make this a win/win for all.

For those who manufacture, you can pre-order, or purchase on site, your ingredients to produce that amazing 12" triple petal, crackling chrysanthemum with bottom shot by contacting George at - Bayarea510@aol.com or Karl at - ubpyro@gmail.com and they can fill you in on what's available.

If you want to manufacture, please contact Bill Ryan at - pyrobill@comcast.net, and Bill can get you the information and forms needed. Spaces are limited so don't wait.

For BP sales, please contact Craig with Bear River Powders. You can reach Craig at - bearriverpowder@allwest.net and he can fill those orders. If you currently hold a BATFE license, please use yours to order. Otherwise, a license has been provided for those that don't.

Please respect this opportunity as the license holder assumes responsibility and liability for the powder bought under the license.

VOLUNTEER!!!! The Club is always in need of volunteers during the event. A 1-2 hr. shift on Security, Safety, Registration, show setup, etc. makes it so much easier for all and allows everyone to enjoy the event. It's a great way to meet people and get involved, so please give as much time as you can. By doing this, you can know that your efforts are directly helping the event happen.

CLEAN-UP - On Monday, we have cleanup. The more people who show up to help in this process makes it get done and over much sooner. So PLEASE! If you can come out on Monday morning (9:00AM) and give 3-4 hrs of your time, it will be appreciated. Plus, those who do stay until the end of cleanup, get to split a percentage of the cleanup pot and have pizza.

In closing, I hope that those of you reading this, share my enthusiasm for our upcoming event and if you haven't already, I hope you will decide to join us for fun, friendship and fireworks.

After all, it's the way we celebrate life!

Looking forward to seeing all of you there in just a few short weeks!

Sincerely,

Pete Wood

WPA President 2011

It's Been a Good Run...

by [Kelly Goebel](#)

Secretary's Report

by [Kathy Bauer](#)

My fellow members:

I just want to offer a heartfelt word of thanks to all of you for the well wishes in the past couple months. Mom, baby and I are doing really well and, while we could always use a little more sleep these days, we couldn't be happier.

To repeat what I said a few months ago... It has been a privilege to serve the club as Vice President but I am stepping down this year to have more time for my new family. I am thankful to have worked with so many people who care a great deal about the WPA and fireworks as a whole. I will continue to participate where I can, with the goal of seeing this club live on so that I might be able to bring my kids to many WPA events in the years to come.

If you have ever thought of getting involved with helping this club.. believe me - the help will be welcomed! Just walk on over and shake a couple hands at this year's Winter Blast and you will be off and running.

And with that said, I simply can't wait to see you all in Havasu!

Let's keep on lightin' up those skies...

Kelly

A Word from the Treasurer

by [Debbie Ludwig](#)

This years WinterBlast is approaching fast!!! The Board and Staff are working hard to make sure we all have a fantastic time in Havasu! We have some very important issues and elections scheduled for the Business meeting. We have 2 open positions on the board that need to be filled and a vote on minors in manufacturing. I urge all of you to come to the meeting and let your voice be heard. This is your club and items on the agenda at the Business Meeting effect the club and its functions. Please Sunday morning come to the aquatic center!!!

See-ya all next month!!

Secretarial Notes:

1. Thank you for your membership renewals. I know times are difficult, and it's hard to pay for membership renewals, even when you know you won't be attending an event this year due to financial hard times. It helps pay our insurance so we will be here when you can attend again.
2. Thank you for your support and kind words for working hard, as all your board members do.
3. Thank you for your kind words of support during the loss of my sister: a true supporter of all things WPA, and past Board member.
4. Thank you for being members of this great organization! It has been an honor to be your secretary for these past 3 years.

Current membership renewals, as of this printing, are at 402: but it's only mid-January. I know renewals and new members will continue on through Winter Blast XXII and in to Do-It.

Here's to a wonderful Winter Blast!

Sincerely,

Kathy Bauer

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Minutes of Western Pyrotechnic Association Board Meeting

December 16th, 2010

Meeting called to order by President Pete Wood at 7:07 p.m.

Roll Call: Pete Wood, Tom Calderwood, Debra Ludwig, Kathy Bauer, Kelly Goebel.

Secretary's Report by Kathy

Current memberships toward 2011: 169

126 renewals; 8 new members; 24 spouse; 4 students; 5 life members and 2 corporate members to date

Current WWBXXII registration totals: 133

83 members; 32 spouse; 3 kids; 1 student; 14 staff

Treasurer's Report by Debra

Current Bank Balance: \$77,000.00

Debbie reported that restructuring of the accounting records was going good. Bank account is balanced monthly.

All tax forms have been filed, accountant paid

Insurance for the club has been paid.

Publications Report by Tom

Next newsletter issue will come out before WWBXXII. In this issue pros and cons about minors in manufacturing will be presented so members can be ready to vote on this issue at the general meeting in Feb. 2011.

Still working on those members who can not receive online newsletters. Working with printer about the 100 or so members not receiving newsletters at this time.

Starting working on WWBXXII program.

Old Business:

Last December the board voted on changing secretary duties #6, 7, 8 & 9 to the duties of the treasurer. This was passed and the secretary will have new bylaws for members at the general business meeting in Feb. 2011.

It was discussed that Tom may present the subject of minors in manufacturing at the general business meeting in Feb. 2011, before the vote by the members.

Craig Kirkland of Bear River Powder joined the meeting to discuss Black Powder sales at WWBXXII. ATF standing on BP sales was discussed. The grade of BP needed by WPA members for manufacturing on site needs special licenses and/or paperwork. The board would like to work with vendors of BP to continue having it available at our events. The BOD will continue to work on this issue.

New Business:

Discussion on Life Member presentation at the general meeting in Feb. A list of deserving members was discussed and voted on. Debbie will make up the plaque for the newest WPA Life Member.

By-laws revisions were discussed about members (new and previous members) who have not abided by Fireworks rules and regulations at events and in their daily life. The attorney will be conferred to discuss with the BOD if the wording needed to amended in our by-laws about members in good standing.

Meeting of the WPA Board of Directors was adjourned at 9:00 pm.

Respectfully submitted

Kathy Bauer

Secretary

Proposal to Allow Teenagers Into Manufacturing Areas

by [Tom Calderwood](#)

At the 2010 Annual Business Meeting, one of the hot topic items that came up was a proposal to allow teenagers (minors) into the manufacturing area. At first blush, this doesn't seem like a legal thing to do. That was MY first impression when I saw this at the '09 PGI Convention in Iowa. I talked with some of their board members and learned that the regs that we have had to abide by applies to companies, organizations, and/or people involved in the commercial aspects of this part of the business. As a hobbyist group, organizations such as the PGI and WPA are not bound by these laws.

What the? I can honestly say that my head did a couple of quick turns on that one. Really? I talked with Doug Mawhorr, an attorney that represents both the PGI and WPA about this, and he affirmed that this was indeed true. I was floored. And scared. All the "What abouts ...?" started to fly around, but I was not sold. It just didn't seem right. All my life, I've been told that you have to be 18 or older. I have one child that had her 18th birthday the day before one of the Do Its, and was the first one she could actually come and make (and fire) stuff. Are you telling me that's not entirely correct?

The following day at PGI, I spent some time in the manufacturing tent and sat with a couple of kids who were making 1 lb BP rockets. Yup, pounding away. They were carefully watched over by a couple of WPA and PGI members—and I saw it. I witnessed one of the kids "getting it". All of it. He understood the issues, got the physics, and had a fair handle on the chemistry of the green mix (and he would undoubtedly learn more in school). As a birthday present, his dad bought him a 1 lb BP rocket tooling set—with the knowledge that if he were to even try this at home, ALL if his fireworks privileges would be revoked. (Good on ya, dad!) And the kid knew and understood why.

Later on, he helped with the hands-on workshop for BP rockets (co-taught by Kurt Medlin, Steve Majdalli, and John Steinburg). There were a few folks who looked at this youngster with a hairy eyeball, until this youngster

started helping them out. You could tell he got it, because he wasn't afraid to answer "I don't know" (something a lot of other folks need to learn) and referred them to other instructors.

I thought that THIS is what our groups are about—the safe transfer of knowledge and exploration of pyrotechnics. Not making kEwl bombz Dewd, but constructing rockets, shells, tourbillions, fountains, etc. Teaching them the art, not some way of making M-80s. I was genially excited about this prospect and talked at length with the PGI about their regs. I had them send a copy my way and we (the WPA board) started going through them to see if there were any changes that we thought we would want. And there were.

For one, we said teenagers 13 years and older are allowed in. (For PGI, it was younger.) We also said that a parent or legal guardian are the only ones who can oversee anybody under the age of 18. (PGI allowed guardians to be assigned on site.)

PGI has multiple manufacturing areas, and the minors were only allowed in the area that restricted shell and rocket sizes. We followed that to say that they could only manufacture up to 4" ball shells and 1 lb BP rockets. No flash, no whistle. We also propose to have a small area set aside for minors to separate them further from other more "energetic" devices. They cannot leave that area to get to another area inside manufacturing, and they cannot stay in the restricted area without the parent and/or guardian with them.

Policing of the minors will be done by the person responsible for policing them outside of WWB—their parent or legal guardian. If either the kid or parent is found to be irresponsible or "playing around", then both of them will have their privileges revoked for the duration of the event and their membership will come up for review.

We will also invoke a 3rd waiver necessary to be signed specifically allowing minors into the manufacturing area.

If you plan to manufacture with the minor and don't sign the waiver, you don't get in.

The (draft) waivers and rules are posted in this newsletter. They are draft at this time until it's seen fit to enact them—or not.

So I've given you my version of the pros and the what fors, but what about the cons?

There are plenty to be sure. Personally, I think the pros far outweigh the cons but as with all things, there's more than one viewpoint on this. What are some of the cons?

What will happen to a minor if he's hurt while building fireworks? Won't this cause us to be shut down? Will our costs go up?

Good question. Great question. Would a teenager hurt in the manufacture of pyro devices at one of our events affect the club as a whole? Yes. Would any person hurt affect the club? Yes, but we all know it would be more serious with a minor. I can't (and won't even try) to sweep that one under the carpet. We can minimize risk, but risk is elevated when manufacturing. I truly and honestly believe that we can reduce that risk to an acceptable level.

I'm just not comfortable with allowing minors into the manufacturing area. Period.

Believe me, I understand. I felt the same way—until I saw it in action. It absolutely changed my viewpoint. I would encourage you to give it a chance.

Who's going to police them?

The same folks who watch after them off site—the parents/legal guardians. It's up to the baby sitters to BE the baby sitters.

Who's going to police the parents? What if the parents are idiots?

How far do you want us to go with this? How far should we police our own members now—without minors in the area? The implication is that we distrust our fellow members. If that is true, then we have a more systemic issue that needs to be addressed. We can only go so far. If you observe someone being an idiot, get a hold of the

manufacturing chairman, any security/staff people, and let them know. We don't want this to happen at any time—and this applies RIGHT NOW without minors. We're not a nanny group, and I really hope we don't head that way. Again, we give responsibility of the minor to the person responsible when they walk out the gate.

Can they shoot off their stuff?

This one is trickier. I don't feel it's right for people to make stuff and not be given the chance to shoot it off. However, we still need to apply some common sense rules here. Take rockets—being a rocket guy myself, I know how crazy it is on the rocket line. We would need to come up with a viable solution here or not allow them to shoot it off. The parent/guardian can light the fuse and the minor can stand back at the head of the path.

Same way with shells, but I think the minor's can be better served to use the student shell area. A lot of students have their shells shot off for them, and we can do the same for the minors. Or allow them to be at the firing board. However, if the area or path is near one of the Public Displays, it may not be possible for the minor to gain access, in which case they can watch from a distance. Lets discuss this at the next business meeting.

What about So-and-So? They said they'd quit!

It shows just how deeply we feel about this. You need to know that we will probably loose some members, maybe a corporate sponsor (or two...). I feel they're wrong, but that's me. Really folks, they are more than welcome to their opinions, and we need dialogue on this. Talk to them.

This really goes down to this point—are you prepared to change a reg that can negatively affect some of the membership of the club? As I have already stated, I honestly think that the benefits far outweigh the cons, but this one is the one that hurts the most. It's up to all of us to make up our own minds.

I posted on the mailing list for people to have a chance to sound off, both for and against. All of those responses are here, plus a few private emailed questions (reprinted with permission)

- Tom Calderwood

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Thank you ALL for your continued

We would like to take this space to express our thanks to our corporate members. These are folks who recognize that the health and longevity of pyrotechnic clubs and organizations is responsible in part of the continued success of fireworks in America. In these economic times, their support can be especially hard on them. It goes above and beyond the standard.

The WPA is reliant on our corporate members continued support for the health of our club. Do us ALL a favor and be sure to use their services.

A Note About the Cover

by Tom Calderwood

Are you ready for WWB? Last year, the Jackalope crew came up with Bunny Blast-o—and it was an instant hit! You never really know what will show up from year to year, and this is a PERFECT example of it! (For the new members, it was a shooting gallery comprised of different objects [like bunnies] that slowly rotated around. Attached to each of them—and other objects as well—was different pyro devices that would ignite when hit with the star from a Roman Candle!)

You know it's a hit, when grown men laugh like little kids. And there was a LOT of laughing going on.

The cover is comprised of 15 images, 5 of which were used for the Blast-o part.

2010 W.P.A. Board of Directors

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pete@westernpyro.org

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PROPOSED WPA Policy related to the Presence of Minors in any Manufacturing or Seminar Area:

- I) The Responsible Person (the person responsible for the activity or seminar - e.g., Manufacturing Chairman in the manufacturing area or the designated instructor of a manufacturing seminar) has full discretion and authority over whether or not to allow minors, both generally and individually, to participate in the seminar or activity for which he/she is responsible. Certain seminars may prohibit minors from attending.
- II) Minors 13 years old and older may be allowed to participate in manufacturing seminars and other WPA-sanctioned manufacturing activities during WPA Conventions provided that:
 - a. Written Permission of the Responsible Person for such participation is granted. It is the responsibility of the Minor and their Parent/Guardian to seek and secure this permission.
 - b. The parent or legal guardian of the minor must give explicit written permission for the minor's presence at and participation in the activity using the form adopted by the WPA for the purpose.
 - c. The parent or legal guardian listed below for each minor must be in attendance at the seminar/activity at all times during which the minor is present.
- III) While participating in any manufacturing activity where energetic materials are present, minors must be under close, direct supervision by a responsible adult knowledgeable in the materials and techniques in use.
 - a. When attending any manufacturing seminar where energetic materials are present, minors must, at all times, be under the supervision of the parent or guardian listed below.
- IV) Proper safety gear, as determined by the Responsible Person for the manufacturing area or activity (e.g., safety glasses) must be worn at all times when in the manufacturing area, whether actively working on any composition or device or merely observing.
- V) The number of minors in attendance at an activity or seminar at any given time may be limited by the Responsible Person or other higher authority to the number that can be closely, directly, and safely supervised.
- VI) At the discretion of the Responsible Person, any minors whose behavior does not conform with safety will be asked to leave the area for the day.
- VII) On a case by case basis, minors less than thirteen years of age may seek special, individual written permission from the appropriate Responsible Person to participate in a manufacturing activity. In all such cases, if permission is granted, the Responsible Person is required to notify a member of the Board of Directors, the Event Chairperson and the Manufacturing Chairperson in writing, prior to allowing the presence of the minor at the activity.

PROPOSED Appointment of Guardian, Waiver of Liability and Assumption of Risk for Minors

I, _____, attest that I am the lawful custodial parent or legal guardian (temporary or permanent) for the minor child(ren) ("Minor(s)") listed below. I hereby grant my permission for the Minor(s) listed below to attend and participate in pyrotechnic related events at the Western Pyrotechnic Association ("WPA") Western Winter Blast (WWB) event. Said pyrotechnic activity includes but is not limited to: pyrotechnic manufacturing seminar(s), the discharging and/or shooting of pyrotechnic material, the observation of the manufacturing, discharging or shooting of pyrotechnic material and any other pyrotechnic related activity that occurs at and during a Convention.

Name: _____ 3. Name: _____

DOB: _____ DOB: _____

Name: _____ 4. Name: _____

DOB: _____ DOB: _____

The undersigned hereby waives any and all liability, for himself/herself and the aforementioned Minor(s), for injuries or damages from any use, misuse of pyrotechnics, or participation, directly or indirectly, in pyrotechnic related activities, with respect to: the Guardian, the owner of the land upon which said activities will take place, the WPA, its members, officers, agents, employees, licensees, operators, permit holders, event vendors, instructors, public display operators, demonstrators, competitors and assigns.

The undersigned states that he or she are the parents or legal guardian of any Minor(s) listed previously and agree on behalf of said Minor(s) to the forgoing waiver of liability.

The undersigned understands that pyrotechnic material is and will be used at WWB and significant risk may be incurred in association with the use of pyrotechnic material. The undersigned understands that risk and voluntarily assumes said risk for himself and on behalf of the Minor(s) listed below.

The undersigned explicitly acknowledges that the risks posed by the manufacture, processing, and assembly of fireworks and pyrotechnic compositions, materials, and devices are greater than the risks associated with their use when already assembled and that such components, compositions, materials and devices are less predictable and less well characterized than fully assembled fireworks. The undersigned understands this particular increased risk and voluntarily assumes said risk for himself and on behalf of the Minor(s) listed below

Dated this _____ day of _____, 20 _____.

Signed: _____ Printed: _____

Father

Signed: _____ Printed: _____

Mother

Signed: _____ Printed: _____

Legal Guardian

Witness 1: _____ Printed: _____

Witness 2: _____ Printed: _____

Comments supporting Teenagers (Minors) in the Manufacturing Area

Teenagers are blessed with an inordinately large amount of curiosity. If the teen is curious about fireworks, they will experiment. Allowing supervised teens into manufacturing will be a safe way to satisfy their curiosity. Limits to size and type of material they can be around is a very reasonable safety restriction. We need to insure that the teen in manufacturing stays in the restricted manufacturing area. We need to that since any rules are enforced with no exceptions.

One argument against that I heard last time was that there were problems with some parents. Well, if the problem parent has a teen under their supervision, they both leave manufacturing for the duration of the event. No problem.

Between Lenny and myself, we pretty much know who the problem folks are. I will be reluctant to grant a manufacturing pass to anyone a problem person is escorting.

Why punish responsible minors who have no association with irresponsible adults? I can guarantee that the irresponsible adult will not be in the restricted area for minors.

One worry that I have is that if a kid learns how to make something, they may try to show off at home to their friends. Teens, in addition to having an overabundance of curiosity, also tend to have an underabundance of judgment, especially when around their peers. To my way of thinking, we will be depending on the responsibility of the adult involved. Again, this will need to be considered when addressing the permit for the minor.

I realize that having minors in manufacturing will add work for both Lenny and myself. I feel that the benefits are well worth it, especially if it brings more folks into events.

So much for my thoughts.

Bill Ryan

Manufacturing Chairman WWB 19, 20, 21, 22 as well as the last few Do Its

To my fellow WPA members:

Though I may not be able to attend the Blast, I have strong opinions on the matter of minors in manufacturing. Having labored for twelve years in PGI governance to effect this change and having seen it successfully enjoyed for many years now, I strongly urge the WPA to allow this as well.

First, the legality and risk issues: (Why we CAN do this):

There are NO legal prohibitions to allowing minors to manufacture at non-commercial hobbyist pyro club events. Ask your attorneys. They've vetted this for us and will do so for you.

There are NO insurance objections to allowing minors to manufacture at our club events. PGI and WPA have both used CSI which allows this. In Iowa 2009, at a seminar Kurt Medlin, Steve Majdali, and I taught, our thirteen year old assistant instructor taught our London underwriter how to make his first rocket.

The waivers we have crafted and implemented are in triplicate- and are available to the WPA:

- 1) Members sign a waiver to attend the event.
- 2) Members sign an additional waiver to be allowed into manufacturing.
- 3) Members sign an additional waiver to bring their minor children into manufacturing areas and seminars.

(Note: Same is true with the proposed WPA change)

Policies on this have been developed and implemented by PGI. You won't have to reinvent the wheel.

(Note: But we did add a few spokes...)

Now, why we SHOULD do this:

Many of us remember our first pyro experiments as kids. I, myself, was fortunate to have mentors who channeled my interests in pyro into constructive directions. Many of us start scientific, engineering, and other professional careers with an interest in pyro. It is part of our mission to enable these young folks to learn from us the safe and legal ways to enjoy pyrotechnics.

We all lament the loss of freedom as we all too often paradoxically race to eliminate more freedoms. If an adult member wants to make fireworks with his kids; signs THREE waivers indemnifying the club and acknowledging the risks; if your lawyers and insurers bless doing so; what right have we to deny such permission? So long as it does not jeopardize the club, why should an adult WPA member be told that he or she cannot share an enthusiasm for pyro with his kids? The best hope we have for ensuring the continued existence of hobbyist pyro is to allow our youth, our kids, to learn how to do this right.

I've moved mountains to make this possible for PGI. We have youth manufacturing, youth attendance at seminars, youth competition and a viable path toward developing the next generation of pyros. I urge you to do the same.

Thank you.

John Steinberg, MD

Crusty Old Fart Who Used to Be Important

Email correspondence

Was this policy going to be limited to only WWB, or for all events?

This will not be limited to just WWB, but they certainly can be eliminated for other events (such as Pyro Playa).

Is it possible to have a third option to vote on? Try allowing it for the 2012 WWB. See how it works out and see if any of the policies need to be adjusted before changing the bylaws of the WPA.

Good idea, and something that a few folks have suggested. I would offer up that we try it at the next Do It where there are fewer people and a larger area to deal with. We will see how things work there and adjust it for a trial for Winterblast. At the following general business meeting, we can discuss this to see if we want to make this a more permanent feature.

From an extended email correspondence:

From 1979 until 2005 I held a California State Fire Marshals Fireworks Mfg. License and a BATF Mfg License. Since 2004 until the present I am the holder an Australian fireworks mfg and shooters license.

At no time did the USA or Australia authorities allow me to have children under the age of 18 in my mfg. facilities. If I did I could be under penalty of citation, loss of licenses or even criminal prosecution. Also the California rules do not allow anyone under the age of 18 years old to help/work on a pyrotechnic site. Not sure of the Arizona laws but I think they are similar to California's laws.

Your manufacturing facilities were for the purpose of creating and selling pyrotechnic devices for commercial (sales) purposes. The WPA is an organization created not for the sale of fireworks but for our members to shoot, talk, and make fireworks. As a hobbyist group, the laws pertaining to commercial manufacturing don't apply. We are following in the PGI's lead on this. (They have allowed minors younger than what is being proposed for WPA in their manufacturing area for a couple of years with no issues.)

Your WPA Digest post says or implies that the legal/insurance factors have been worked out. I checked with my past BATF agency and they have not changed their position on minors in a mfg facility. Does the WPA have a written exemption from the BATF'S Washington D.C. head office allowing minors in the WPA mfg areas? Also is there an insurance rider that specifically stated that children in the WPA Mfg. Area would be covered?

No we don't. The same regs that apply to minors in relation to a commercial facility still applies. This means that minors will still have the same restrictions in and around the commercial displays we enforce during Winterblast. No exemption is necessary since we are operating outside of commercial manufacturing. Our insurance carrier is fully aware of our intentions and has successfully worked with us in forming the proposed changes to the regs as well as the waiver. The policy will be revisited and addressed if this goes through.

Having dealt with fireworks insurance and enforcement agencies if one child, or even an adult, gets hurt all bets are

(Continued from page 13)

off, especially if BATF permission is not granted for minors. Remember everybody is friends until someone is hurt, especially children, then all hell will break loose and the WPA will be history. The same goes for the PGI by allowing minors in restricted areas.

*Injuries in manufacturing are ALWAYS a consideration for everyone concerned. This is a MAJOR concern on everyone's part. BATFE permission is not required, but what if a minor is injured while handling fireworks? How will this look to the general public? I would back this up to ask what would happen if a child injures themselves on the C-line while "playing" with fireworks? It would generate a lot of attention, more so if they were in manufacturing. We can and will decrease risk to a point where I believe injuries would be minimized during manufacturing as outlined elsewhere in this newsletter. This is part of the reason why we are taking extraordinary measures for people to get a fair look at both sides of the issues and our proposed changes. To address the issue of if *anybody* gets hurt, we have been through this and don't want to go through it again. It is to everyone's benefit to make sure that nobody gets hurt.*

The C-line, well that's a job we all have to do.

I suggest the WPA to reconsider the policy of allowing of minors in restricted areas. I have been at factories that have had accidents and it's not pretty.

I have seen reports, video and pictures of amazing and horrifying accidents at different pyro factories. But I would argue that we don't have a pyro factory. At the factory a large amount of material, both raw and finished, is kept in very close quarters. One of the ways we minimize risk is to reduce the amount of material at our tables – raw and finished. We also put some space between the different manufacturing sites so we are not all crammed in a single area. These are just some of the ways we protect ourselves already, as well as others in the area. For teenagers, we would further restrict them to a specific area meant just for them to reduce exposure to more energetic items. Again, we want to reduce the risk.

We acknowledge that we cannot eliminate risk. To make such a statement would be misleading and folly. I personally believe

*that you are under more risk for the drive out and back home than on the manufacturing site. We do not want to try to reassure people that there is no chance that *anybody* would be hurt. What we will (and promise) to do is to reduce, as much as possible, risk of injury while keeping the teaching and joy of pyrotechnics intact.*

--second email exchange, after a clarifying response—

I was wondering if the shells or whatever are made in the MFG. area then shot on the night that the public is attending, even though not in the official public display, will this be considered in Commerce because of a paying audience?

The audience does not pay the WPA to see the shows. There is a collection/donation for parking, but these funds are not used for the benefit of local non-profits. Lake Havasu City does make a (substantial) donation towards the public display, but as previously stated, the regulations we are all familiar with still apply for the public display. We are talking about the hobbist aspect ONLY.

Whether legal or not, kids in a mfg area still scares me. To tell the truth a couple of past WPA and even PGI mfg seminars have scared me and I walked away .

Frankly, this was a real head spinner for me when I first saw it. (Just as John Steinberg!) And I was sure puckered up when I first witnessed this. But I also witnessed the incredible benefit of this and urge people to give this a chance.

*And if you did walk away from any of the seminars either at PGI or WWB, I'm sure not only myself but other VERY interested people would like to know which ones and why. We are *always* looking for ways to make things safer.*

Anyway, I hope that the WPA keeps having the WWB as it is a fun event and I wish you nothing but good times. Someday I will make it back to the WWB. I hope it all turns out well for the WPA.

Thanks for your kind words and concern. I am especially gratified to know that people who can't attend WinterBlast are still interested enough in the WPA to be involved.

Comments About Teenagers (Minors) in the Manufacturing Area

By Kief Adler

First off, I think that educating the youngest pyro enthusiasts among us is a great thing to do. After all, if they're going to play with fire anyway, don't we want to make them safe and teach them what to do, and not to do, before they burn off their eyebrows? But mistakes do happen, don't they? And no one can watch someone 24/7 right? And do I really want to see that 13 year old pounding rockets next to me in manufacturing? Hell no, I don't. For those of you who weren't there, or don't remember, our worst manufacturing accident occurred at an early Do It when someone pounding a 1# rocket sparked a fire that blew up a car.... No one was hurt, but it was a hell of a lesson learned, and the person making the rocket was working with one of the club's most experienced builders. S__t happens, but why put ourselves in a position to encourage it to happen?

Now I've heard the argument that our lawyers, and insurance company, have blessed this idea and I'm happy to hear that, but I wonder what both will say the day that one of our minor members loses an eye, or suffers a bad burn or causes injury to another. Our insurance rates used to be cheap until the WPA was sued by an injured member and our rates, and every other club's rates, promptly quintupled!

You will also hear people telling you that the PGI allows minors in manufacturing and has nothing but great things to say about this. Well, we are not the PGI, are we? We don't hold a week long event, don't have their membership base, don't have their staffing resources and don't have the type of sites that they have either. I wish them luck in whatever they do regarding this issue but also hope that I never read about an accident involving the Guild and minors either!

What about the waiver that we all sign? Well it's a bit of a problem to waive the rights of a minor away but, waiver or not, when your kid is hurt, and the bills start piling up, you're going to look for someone to help you out. How do you do that? You sue. And, as a businessman who's been sued before, I know that a jury is going to look at a

burned kid and want to hang that on somebody. And what if the local authorities decide that, as a parent, you should have done a better job protecting your child? Child endangerment is not a charge that you want to face as a parent nor is it the kind of trial that you want to be a part of if you happen to be a Board member of the club. Let's also remember that, although our events are outside California, we are still an entity that does business in California, a state that is more lawsuit friendly than many. We could easily have a suit dropped on us in California for an event taking place in Arizona or Nevada.

What about staffing? We're talking about a separate area for minors to work in, but who's staffing/policing these areas? We have a hard enough time finding staff as it is. And where is this area going to be? I've watched Bill Ryan map out the sites that we use right now and we barely have enough sites for the manufacturers that we currently have. Where are we putting these new sites?

The bottom line for me is simple: want to teach your kid about fireworks? Do it on your time and at your location but don't jeopardize Winterblast and Do It for the rest of us.

- Kief

Follow up:

I sent an email to Kief to clarify something. During the last Business Meeting, he stated that if this policy was enacted, he would stay with the club but back down in any kind of leadership role, and he affirmed that this is the case. For folks who have been around a while, we know that Kief has been involved at the very core of the WPA for many years. Having him step down would certainly be felt.

Again, I wanted to present both pro and con.

I hope this helps in the conversations about this topic.

- Tom

Final Thoughts

By Tom Calderwood

- 1) These thoughts are not final. I am convinced that allowing certain teenagers into the manufacturing area is a good idea, but should the membership decide otherwise, I'm not going to sit and pout about it. I'm spearheading this move to the membership so the membership can decide. Regardless on which way the membership goes, myself and your entire board is dedicated to making this club run.
- 2) Talk to manufacturers who are also in the PGI about their experiences.
- 3) In talking to some of the PGI board members, it was also a hard sell to the PGI, but after enacted, the value quickly became obvious.
- 4) The PGI has not had an accident in manufacturing requiring an insurance claim. WPA has had an insurance claim, but to be fair, it wasn't in manufacturing (but goes to show how it can affect the club).
- 5) At an earlier Do It, we did have an experienced member in manufacturing who, while pounding a B.P. rocket, had a fire start that, through a series of sequential events, resulted in a car burning (100% loss). I remember that one well—I was co-chair of the event!
- 6) We also have had smaller injuries to people in manufacturing resulting from items burning unintentionally. We have taken steps to reduce the chance of this happening again, but we can NOT say it won't.

A very good friend of mine doesn't like the chance that a child will get hurt by, through no fault of their own, an idiot parent or another idiot member. I can FULLY understand this concern. As stated in the last business meeting, I do believe that this is something that will be addressed regardless on which way this issue goes. I don't want, nor do I believe anybody else in the club wants, the WPA to turn into a "Nanny State" where we have people looking over your shoulder every step of the way, ready to pounce and throw you out just incase you could be conceived in any way as being unsafe. We rely on our members to watch themselves and others. If there's an idiot in manufacturing, let a staff person know and we'll take care of it before it develops to something worse.

The WPA board asks for your careful consideration to this, and we will be happy to answer questions at WinterBlast. (You *are* coming to the blast? Right?)

- Tom Calderwood



PGI and WPA Member Steve Magdali teaching a black powder rocket seminar at the PGI Convention in Iowa, 2009. I would have taken more, but had to help with showing how to put headers on! - Tom

BOB FORWARD'S "Strip 'n' Dip" ELECTRO-COMBUSTING INITIATORS



Although most casual pyros tend to be fuses/lighters, and most professional display operators use commercial e-matches such as Davyfire and Oxral, there still exists a few of us who fall somewhere in the nebulous gap between these two worlds. We're not setting up explosive commercial shows, but we like having the control that electrical firing brings, if only to avoid having to run back and forth with the video camera and torch.

Now that commercial e-matches require an ATF permit to purchase, the impetus to roll your own has gone beyond the mere financial cost. Admittedly one can purchase e-match heads that may be soldered to wires and dipped, or "dry" e-match blanks that need only be dipped in pyrogen, but these are often more trouble – and money – than those such as ourselves require.

How much simpler it is to simply strip a wire, dip it in a conductive pyrogen, and thus create a quite functional e-match with little or no expense beyond the wire and a few grams of chemicals? Even better, the burned tip of the wire may be clipped off, re-stripped, and used again and again, for even further economy.

In this article I'll be showing how I create several hundred such devices in the course of a casual day. Since these are homegrown igniters I prefer to avoid the term "e-match" as too stolidly professional – hence my own semi-joking term "Electro-Combusting Initiators."

The first step is the mixing of the pyrogen itself. You can tweak it in various directions as you like, but the basic mixture is:

4 grams Potassium Chlorate
2 grams Antimony trisulfide
1.5 grams Conductive Lampblack
pinch of titanium or aluminum fines

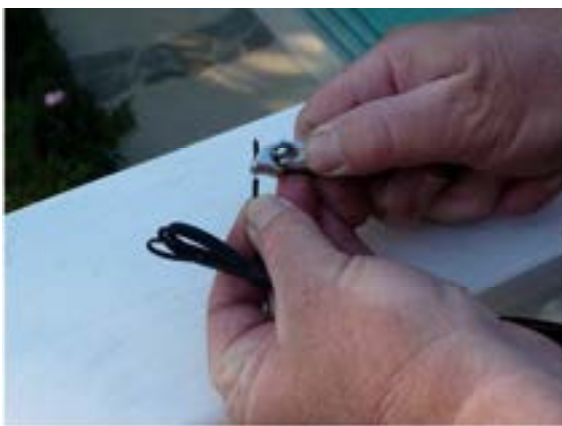
Bound with a dollop of PVC pipe cement, thinned with MEK in a proportion of roughly 1 part PVC cement to 3 parts MEK.

(NOTE: Thinned NC lacquer can also be used, but results in a brittle, more easily damaged initiator. Thinned PVC cement is tougher, cheaper, and easier to come by.)

Since the PVC cement has a certain insulating quality, you want to use as little as you can get away with, or your initiators will require more voltage to pop. Use just enough to get the mix about as thick as honey, and from then on, thin as needed with straight MEK.

Cap the mix and let it sit for a bit while you cut and strip the wires. Standard 22 or 24 gauge duplex shooting wire (available from most pyro suppliers) is ideal. One of those \$15 automatic stripping tools from Radio Shack makes quick work of this process. Trim the bare leads of the wire to about 1/4" in length.





And set them on the deck railing to dry while you discuss with your wife the wisdom of using the deck railing as a drying rack.

Another round of dipping and drying will result in a good, match-head sized blob of dried conductive pyrogen on the ends of the initiators. Once dried, it should show good con-



Dip the bare ends of the wire in the conductive pyrogen to form a small blob on the end



ductivity when checked with an ohmmeter.

The final step is to dip the initiators in a single dip of straight PVC cement, forming a tough outer casing and



Strip-n-Dip Ignitors (cont) by Bob Forward

around the pyrogen and making for a durable match.

Properly made, an Electro-Combusting Initiator should fire reliably with a single 9v battery, and give a hot shower



of fire and sparks that will ignite any lift charge or quick-match you require.

Then all you have to do is clip the ends, strip them and dip them once more, and you have a fresh batch of Initiators at no further cost to you!



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Timing Aerial Shell Bursts for Maximum Safety and Performance

By K.L. and B.J. Kosanke

Originally appeared in Pyrotechnics Guild International Bulletin, No. 84 (1993). Used with permission.

The time chosen for the interval between a shell firing and its burst is sometimes given less thought than it deserves. By carefully choosing the delay interval provided by the time fuse, it may be possible to produce undistorted bursts, with a higher level of safety.

When an aerial shell bursts, while it is nearly stationary, its stars are propelled outward, each experiencing nearly the same aerodynamic drag. Thus the symmetry of the burst is determined only by the construction of the shell, and the pattern will appear to be suspended in the air for



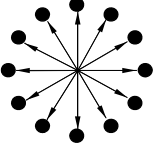
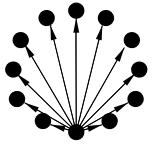
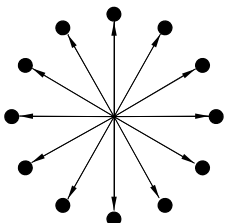
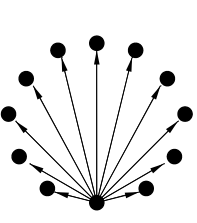
Stationary Shell	Time Seq.	Rapidly Moving Shell
.	0	.
	1	
	2	
	3	

Figure 1. Time sequence views of stationary and rapidly moving aerial shell

its duration. That is to say, a properly made peony will appear as an expanding, near-perfect sphere and will seem to hang motionless in the air as it spreads. See the left column of Figure 1, which is intended to appear as a timed sequence of the burst and expanding pattern of stars from a near stationary spherical shell. On the other hand, if the same shell were to burst while it was in rapid motion, the

star pattern would be distorted. This is because the spreading stars would be subjected to a little different aerodynamic forces depending on which way they were traveling relative to the motion of the shell. The star pattern will appear smaller and somewhat elliptical. Also the star pattern will be slightly more sparse on the bottom than on the top. Perhaps, most noticeably, the developing star pattern will move in the direction of the original shell motion, and will appear to expand from a point which is not at the center of the pattern. See the right column of Figure 1 for an illustration of the case where the upward motion of the shell approximately equals the burst velocity of the stars. (Readers wishing to learn more about star ballistics are referred to Reference 1.) Thus there are aesthetic reasons why aerial shells are normally intended to burst near their apogee, when their upward motion has essentially stopped.

The time interval during which the vertical motion of an aerial shell has virtually stopped is longer than many may realize. Aerial shells spend more than four seconds traveling up and down only 70 feet at their apogee, and this is independent of shell size, see Figure 2. These results were generated using the computer model described in an earlier article². This illustrates the trajectory of typical 3, 6, and 12-inch aerial shells fired from slightly angled mortars, where the time elapsing between each point is one second. The plotting of the shell trajectory data is terminated a few seconds after the shell's apogee.

Table 1 presents the input data for the computer model, as well as, the results. Included in the results is the approximate time for the shell to travel up and then back down the last 70 feet about its apogee. In each case, this time is about 4.2 seconds, independent of shell size. Thus it is relatively easy to time the burst of an aerial shell to occur during this 4-second period. In terms of fullness and symmetry of the star pattern, because the shell is moving so slowly during this interval, a burst at any time is equivalent. In terms of safety, however, all times are not equivalent. If the burst is planned to occur at or near the start of this interval, there will be added time to allow a

Timing Areal Shell Bursts (cont)

By K.L. and B.J. Kosanke

damp or sputtering time fuse to complete its task before the shell falls too close to the ground for its stars or components to burn out before endangering people or property. Similarly, on those occasions when shells are mistakenly fired from over-sized mortars, the amount of burning debris reaching the ground will be lessened if the shell has been designed to burst early during the 4-second interval about its intended apogee.

Thus, by selecting the time-fuse delay (length) so that bursts occur 1.5 to 2.0 seconds prior to apogee, safety may be increased without loss in aesthetic performance. These times are included in Table 1 as approximate ideal burst times for the stated input parameters. Obviously, the actual time delays need to be determined by experimentation and will depend on individual shell and mortar parameters.

References

1. T. Shimizu, Fireworks from a Physical Standpoint, Part III, Pyrotechnica Publications, Austin, TX, 1985.
2. K.L. and B.J. Kosanke, "Aerial Shell Ballistic Computer Modeling," Pyrotechnica XIV, Pyrotechnica Publications, Austin, TX, 1992.
3. K.L. Kosanke, L.A. Schwertly and B.J. Kosanke, "Report of Aerial Shell Burst Height Measurements," PGI Bulletin No. 68, 1989.

Table 1. Input Parameters and Results of Computer Modeling.

Nominal Shell Size:	3"	6"	12"
Input Parameters:			
Shell shape	Spherical	Spherical	Spherical
Shell Diameter (inches)	2.75	5.56	11.50
Shell Weight (pounds)	0.3	2.5	18.0
Drag Coefficient[a]	0.40	0.37	0.31
Muzzle Velocity (ft/sec)	300	340	360
Results:			
Apogee Height (feet)	440	760	1100
Time to Apogee (seconds)	4.5	6.0	7.6
± 70 ft Time Interval (sec)	4.1	4.2	4.2
Approx. Ideal Burst Times (sec)	2.5–3.0	4.0–4.5	5.5–6.0
Experimental Burst Height (ft)[b]	406±50	776±52	1164±134

[a] Empirically determined from published data.²

[b] Experimentally determined aerial shell burst heights were reported earlier.³

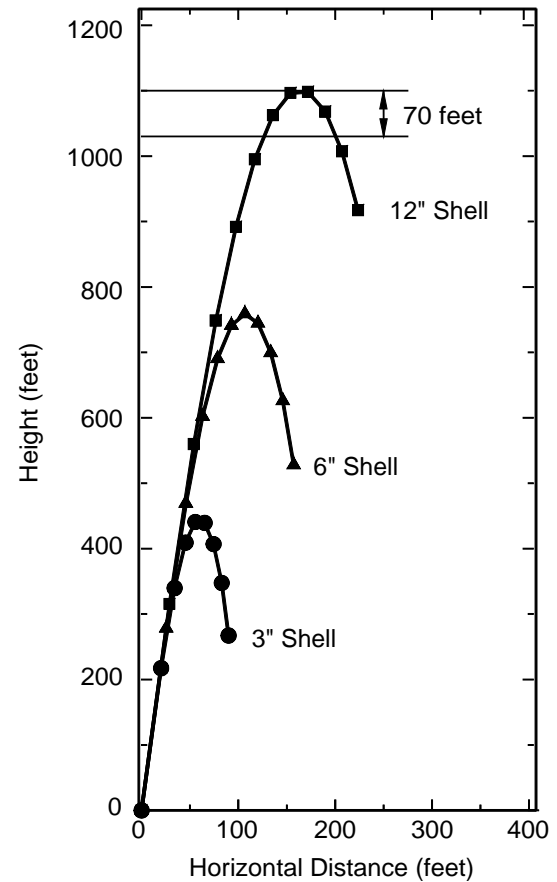


Figure 2. Trajectories of spherical aerial shells illustrating the approximate 4-second, near-stationary, interval about the apogee.

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