

# Many Happy Returns

- To promote the art, hobby, craft, sport, history, culture and science of boomerangs
- To organize and hold an annual National Boomerang Expo
- To represent the United States in International Boomerang Competitions

## Around The World In 80 Seconds, or "This is Something!"

By Eric Muhs, Seattle, WA



A boomerang in flight around the South Pole of the planet Earth.

thrown around the world, a few years ago". "But you can still give it a shot." Ben's work brings him to Seattle from time to time, and we met and actually made & adjusted some boomerangs with my science students, out on a big playing field at Sand

boomerangs and fewer personal clothes. The cold weather gear you get fitted out with at Christchurch, New Zealand, was really good. Good enough to throw very cold boomerangs at the very cold South Pole barehanded, as long as the rest was bundled up really well.



Your Hero, 20 meters from the South Pole, with the Amundsen-Scott South Pole Station dome in the background.

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One of the best things you can do after dinner, if you're with a bunch of physicists with their faces stuck into computer monitors, is to march them outside for some REAL physics. Especially if you're all at the South Pole, where it never gets dark in December, and where everyone is under such a tremendous sense of urgency and obligation to their science project that they don't seem to have much fun. "These people need to get OUT more", I decided. Even if it's 50 below.

Ben Ruhe furnished me with a set of 3 boomerangs when he heard I was headed to the pole. Ben is fond of trying throws around big things: the Washington Monument, The Space Needle. He apologized, "Another guy has already

Point. The class ended abruptly, when one of my students took a huge boomerang nicknamed "The Killing Stick" directly on the chin on a bad bounce. Three stitches.

But the Killing Stick was way too big to schlep to the pole, where I only had 70 lbs personal baggage for a month. As it turned out, I should have taken more

The US Amundsen-Scott Station sits, well, within a boomerang's throw of the pole, and is getting nearer by about 10 meters every year, as the ice moves slowly toward the faraway coast. The South Pole is high, almost 3,000 meters (9,500 feet), and because the Earth's spin causes the atmosphere to bulge at the equator and flatten out at the poles, the



# USBA Board News

## Senior Rules

New Senior rules have been adopted by the board, and are being added to the official rule book. These rules are similar to a handicap in golf. If a competitor is over 50, they may choose to take advantage of these changes. It is not mandatory for older throwers to be governed by these rules.

## Changes to the official USBA rules to accommodate the new Senior Class.

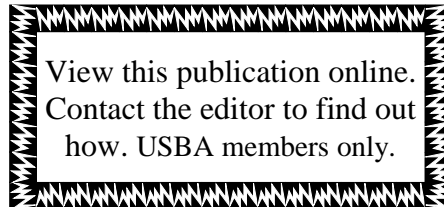
1. Allow one practice throw from the circle in both Aussie Round and Accuracy.
2. Allow one point for throws that exceed the 20m circle in Aussie Round.
3. Endurance Time for the Senior Class shall be three (3) minutes.
4. All catches are optional for Trick Catch/Doubling on a thrower's choice basis for the Senior Class.
5. Reinstate the two-handed catch in Trick Catch/Doubling for the Senior Class.
6. Entering the Senior Class is optional for over 50 throwers

**An official request has been extended to Eric Darnell and John Kohler** to be the coaches for the next World Boomerang Competition. In speaking with Eric, he stated to the editor that team member selection will be determined solely by scoring at the team trials. The team trials are open to all USBA members. More information about dates and locations of these trials will be given as it comes available.

We have had a request from a Visitors and Convention center in the upper mid-west to be considered for the **2004 USBA National Expo**. The spokesperson was excited about doing much of the legwork and promotional duties. They were even open to the idea of joining the USBA to legitimize their bid.

## Changes have been made to the wording of the membership fees.

Formerly it was understood that Canadian and Mexican memberships were the same cost as US memberships. The wording has been corrected to state "International" instead of "Overseas", and the international memberships will be \$20. Also, family membership fees for US members will be \$25 for inclusion of up to three competing members (for coverage by USBA insurance.) One (1) MHR will be delivered to a family membership address. See more info on page 21.



## USBA Board of Directors 2003

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## Official Financial Statement May 9, 2003

In an effort to inform you of the financial status of the USBA we offer the following facts and figures.

1. There was \$409.19 in bank fees paid in 2001-2003. The USBA will not be paying fees anymore as Thomas Carter obtained a free business checking account for the USBA due to our not for profit status.

2. Expenditures for 2003 so far have totaled \$116.32, not including approximately \$650 for the publication and mailing of the current issue of MHR. The \$116.32 spent included a postcard renewal campaign which gained at least \$150 in renewals.

3. The current checking account balance is \$4090.07 with another \$348.77 in PayPal from online memberships and renewals.

4. The insurance company the USBA has been working with is no longer writing sports market insurance policies. Another company has been found. The insurance policy will be more costly but also provides better coverage. The premium for 2003 will be around \$2,500. It should be noted that insurance premiums have increased almost 52% since 2001. Maintaining and providing this insurance is one of the primary services the USBA affords its members, as most boomerang events could not occur without this insurance coverage. The USBA Board will be looking into what adjustment to the sanctioning fee is needed to cover the expense.

Respectfully submitted,  
The USBA Board of Directors

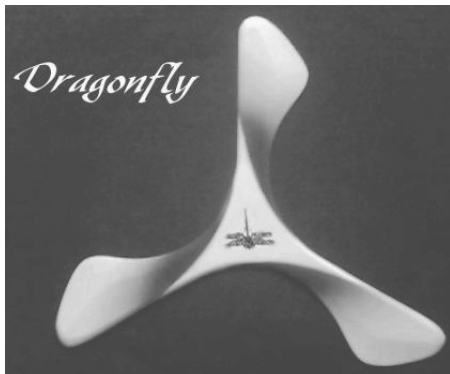
Tony Brazelton, President  
Kendall Davis, Secretary  
Thomas Carter: Treasurer  
Clay Dawson, Member at Large  
Dave Hughes, Member at Large  
David Hendricks, Member at Large  
Betsy Miale-Gix, Member at Large  
Nic Yeager, Member at Large

For more specific information, contact a board member or the editor.



Featured BoomSmith - A new company

In 1987 I was a Graphics designer & lead Guitarist for a local band - playing almost every weekend. I have always been the kind of person who is fascinated by the physics of the world, so Boomerangs were sure to become a big interest in my life, though I had no idea of this in 1987. For some reason that year I set out to buy a book on Boomerangs. I knew that they worked, because I saw a kid throwing one when I was about 12 years old, and I was blown



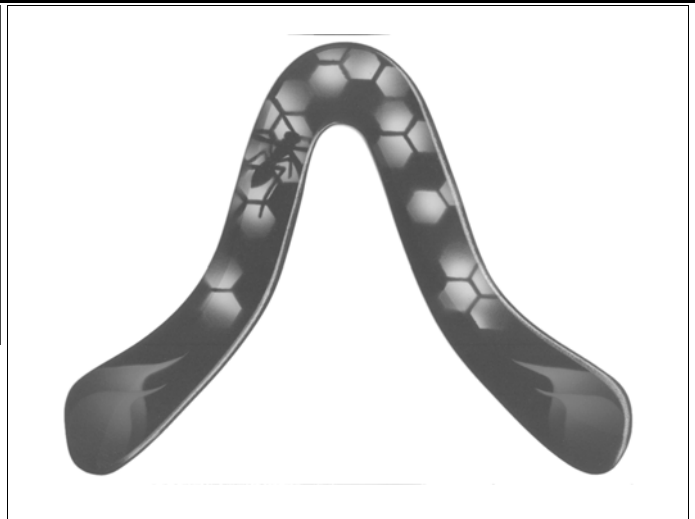
away by it's awesome flight. He would throw this curved stick and it would return to him after making a circular flight. I think everyone has wondered how this is accomplished, at least Boomeranger's have thought about it, I'm sure!.

For the life of me I don't know what happened to the book I acquired. To my knowledge there were only a few books

available at that time, and I think I was lucky to find a good one!. After studying the whole Gyroscopic procession thing, I tried making a few. The first few failed terribly and broke almost every time.

I soon realized that I needed to improve the material and figure out what was wrong with my design. I was also unaware of the high-quality plywood types that are available. After breaking a few Boomerangs, I was achieving good lift by improving the airfoil. I spent many hours designing and testing Boomerangs until I was happy with their flight, and appearance. I chose Polycarbonate to make AirFloat Boomerangs, because this is more durable than the other materials I used in the beginning. I started out with the standard Boomerang shapes, then Omegas, three, four and even 6-blade boomerangs. I made boomerangs for a number of years and still had no idea their was a whole Boomerang world out there. I just made boomerangs because I enjoyed them.

In 1989, I started to move from Graphic designing to Computers, because of the huge economical boom (no pun intended) computers were having on the economy. After about 10 years



Wasp from Airfloat Boomerangs - from my personal collection

of this, I decided to start designing boomerangs with the idea of starting my own company. Thus AirFloat was born.

Today AirFloat is quite busy and I believe we are making some of the best booms available. We put great care, and attention into each one. The biggest reward is when I see the look on someone's face - like the one I must have had (when I was 12), watching that kid throwing his Boomerang.

Kevin Absey,  
AirFloat Boomerangs

<http://www.airfloatboomerangs.com>

*AirFloat is focused on five designs at this point, and will be introducing more new designs as time goes on.*



Editor's Note

I recently traded for the Wasp pictured above. I found that it will fly a nice 30-meter circle with a moderate toss. I then threw it harder, and it made a longer, higher flight with the same accuracy. I believe this is due to the flexibility of the poly.

The workmanship on this boomerang is truly top-notch!

(Continued from page 1)

actual pressure altitude was more like 3,300 meters (10,800 feet). Not much air



Chinese physicist and I ate dinner and moped around the computers, writing email that couldn't get sent until the next

satellite link. Sonja and I were already there, typing and tapping away. Boredom. Need some fun? I put on my warm clothes and did the 20 minute roundtrip walk out to my dorm to get the 'rangs.

Ben sent me with Napoleon's Hat (Rusty Harding, 1999), Norwester (Outback Boomerangs) and EZ-Floater (Rusty Harding, 1999)

Returning, I marched them all outside. We stood just north of



for a boomerang to grab. But it was very sunny and not very windy most of the time, and that was good for throwing. I was also planning to do some kite flying, and with the low air pressure and lack of wind, had a hard time getting a kite in the air most days.

So mostly, I was at the pole to do physics, to assist in some small way with AMANDA, the Antarctic Muon & Neutrino Detector Array. That's a book in itself, and you can learn more about it at :

But I was also there to connect high school students to the research. I teach physics at Roosevelt High School in Seattle, Washington, and the TEA (Teachers Experiencing Antarctica) program inserts teachers into scientific research, courtesy of the National Science Foundation, and your tax dollars. The idea is that by enriching one teacher, the excitement of modern science can be communicated to a much broader audience of students, parents, teachers, and anyone else who will listen.

But talking about neutrinos causes most people's eyes to glaze over, even with pretty colored pictures. And I knew, because I'd worked with them before, that there'd be some downtime with the physicists. That's where the boomerangs came in...

We'd been at the Pole about a week, and there was a lull: mysteriously unresponsive electronics, and experts not available by email back in the real world. Bai, the bipolar (sarcastic, then earnest)

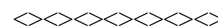


the pole (!) and threw for about an hour. Bai turned out to be a better thrower than all the rest of us. He caught on very quickly, and was throwing and catching within about 20 minutes. His favorite English expression for any amazing thing I'd unveil, "Oooh. This is **SOMETHING.**"

So lots of throws, not very many catches, a couple of long searches, when a rang would slice into the ice and nearly bury itself.

A couple of months later, back at school, I was giving a presentation for parents of my students & the general public. I raided the school's display case, where I had a presentation of all my South Pole toys & pictures set up. I brought all the boomerangs back to my room for presentation props, in the cardboard folder Ben originally sent them in. They didn't fit into the folder : something in the bottom, some paper. What's this? A letter from Ben, with throwing and documentation instructions. I took that letter all the way to the South Pole and back, without finding it !

## Boomerang Nirvana By Bob Rudy



I typically throw whenever I have an opportunity and my vehicle always has booms at the ready. Living in the country is great but because of trees I can only throw fast catch booms in the yard. I can probably lay claim to having thrown in every park and open field throughout the county. My vacations always include boom throwing whether on military bases, tops of mountains, grade schools, or with my son and grandchildren.

My secret place to throw is within a few miles of my house. It is on the shores of either Surfside beach or Quentana beach. In October the beaches are vacant except for a fisherman here and there. The hot weather has left and the breezes are light and steady. If you get there early you can welcome the sun as it makes it's way up into the sky. A few sea gulls skimming the shoreline and possibly a few other souls who have found this most satisfying place. Throwing a favorite boom out over the Gulf and watching it make it's way back to your waiting hands and then doing it all over again will make a tingle go up and down your body. No one there but you and nature and what better team could there be.

Bob Rudy

## An Armada, or Retro?

<http://www.A-Boomerang-Armada.com>

Although these boomerangs have been produced since the 1960's, the Boomerang Armada has been relatively unknown to the average enthusiast until recently. I first learned of these boomerangs through a listing on Ebay. After a little searching, I discovered the website for Jack Claycomb's Boomerang Armada and started learning about them.

In the early 1960's Jack's urge to make a boomerang resulted in a 17" diameter aluminum triblade weighing 8 ounces. Its flight characteristics were doubtful. From there Jack moved on to plastics like High Density Polyethylene, PVC, and Polystyrene. Jack still has some of those early works. He finally settled on polystyrene as workable, durable and comfortable to throw. Working from the design of the aluminum boomerang, he started producing his triblades in several sizes. Jack then applied for and received patent #3403910 for his boomerang design. More than 40 years later, the Boomerang Armada still proved to be fun and educational.

The current line comes in a range of sizes and thickness and these are

indicated in the model number of each boomerang. A 14-80 is 14" in diameter and .080 thick. All models come in 10", 12", 14" and 16" with thickness ranging from .020" through .125". As can be expected, the larger and heavier boomerangs will fly farther. The smaller and lighter boomerangs are good indoors. Jack has the boomerangs grouped as indoor, backyard or park flyers.

Indoor Boomerangs include the Dash 20 and Dash 30 series. I like the Dash 20's myself. The slightly thicker material is easier for me to throw and I like the extended range. Dash 10's circle 4 to 6 feet while the Dash 30's circle 6 to 10 feet. Both indoor ones are very light and very easy to throw.

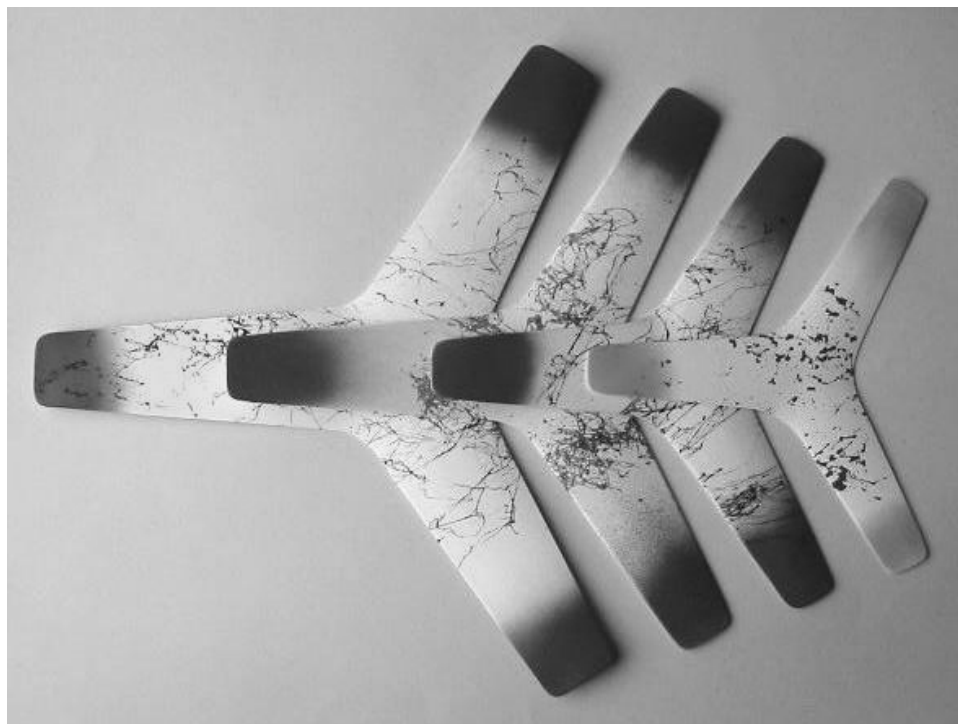
Backyard Boomerangs: Moving up to the Dash 40's takes us outside and in the yard. I got hooked on using the Dash 40's in my yard and keep them handy for when young visitors stop by. Within a few throws they are starting to look like pros! I plan to keep several 12-40 booms in my throw kit. Dash 40's have a range of 10 to 20 feet and are listed as small

yard boomerangs. Moving up to the larger yard Dash 60 and Dash 80 booms increase the range to 30 and 40m feet. The 12" and 14" Dash 80s may be the perfect newbie boom. I like them more each time I use them. Light, easy to throw, easy to catch and flies far enough to look good. Some of these are definitely ending up with me all the time. Besides, both fly a small enough path that I can use them right outside the house. I can guarantee that traffic stops when I am throwing these!

Moving up to the Park Flyers we have the Dash 100 and Dash 125, which stretches our distance out to 50 and 60 feet. These booms are made from some pretty hefty polystyrene and you can really give them a toss. I was throwing a number of 16" boomerangs including a dash 100 and 125. I continued adding more booms until I couldn't handle any more. I maxed out at 4, one each from Dash 80 to Dash 125. Those of you who throw doublers will be real challenged to catch all four boomerangs thrown this way as the all return at the same time. It is more like a juggling act. If you are going to throw multiples, try keeping it to slightly thinner models and not to stray too far between models. Two each in Dash 60 and 80 will outperform one each in four sizes or even two each from other thicknesses say Dash 40 and 100. The force required to throw the thicker boomerang may overpower the thinner ones. Staying with thinner boomerangs helps you grip more at the same time.

In all, I would say the Boomerang Armada is a great asset to those you do demos or teach people about boomerangs. They are very easy to throw, reasonably priced and work well. The 16" ones are impressive to see and multiple boomerangs are a sight to behold. I will be using these boomerangs a lot. They come in both right hand and left hand models. Jack is a member of the USBA and also a proud sponsor of the 2003 USBA National Boomerang Expo in Houston TX. Be sure to check out the Boomerang Armada when at the Expo.

Dave Hendricks



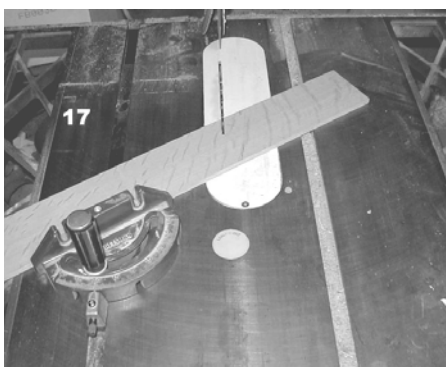
## Making Hardwood Lap Joint Boomerangs

### By Dave Hendricks, BVD'Rangs

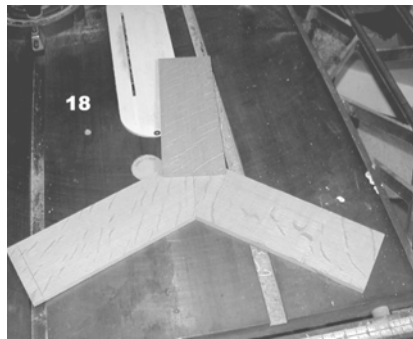
#### Part Deux: Tri-blades and Quad-blades

##### Triblade Construction

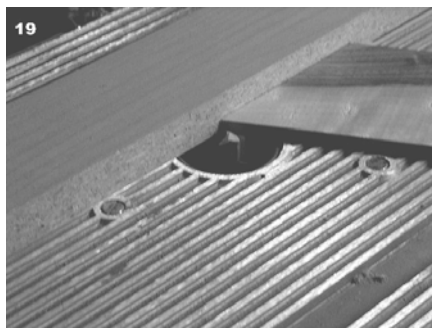
Continuing with the knowledge we gained in Part One, we move on to the triblade. At the tablesaw, I set my miter gauge to 30 degrees. I then take two



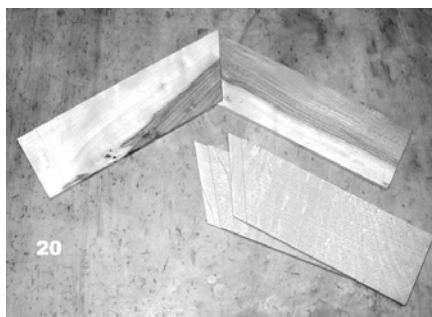
of the three pieces as described in part one, and cut the angle at one end of each as in photo 17. The third piece I



leave at 0 degrees for a 90 degree cut-off. You now have three pieces for the boomerangs as in photo 18. Moving to the router table, I set the fence to allow about a 1/2" pass. This is shown in photo 19. I set the depth of the cut as in the traditional style boomerang. I make my cut the same way, but only need to make one pass for the width of cut. Make sure you cut the groove on the same side of both pieces. When this is done, and one piece flipped over the result should form the correct angle



you need. Photo 20 shows both a pair of pieces with the laps cut and another pair with one piece flipped over and matched to the other. I may need additional passes to achieve the proper depth just as we did in part one. Once I



have the two pieces cut to the proper depth, I mix the epoxy and glue them together.

Now it gets tricky. After the glue had dried, I unclamp the blank and clean up the glue that squeezed out. Sometimes this can be done with a wood chisel, other times I must use my random orbit sander. In photo 21 I am using the sander. You need a level surface on the blank in order to get a good cut with

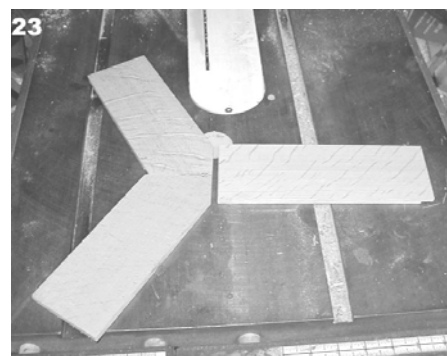


the router. Next I cut 60 angle at the elbow of the blank as in photo 22. In the photo you can see the plywood extension I have added to the miter gauge. With shorter pieces, this is a big help. Notice that this blank would not even be on the miter gauge without the

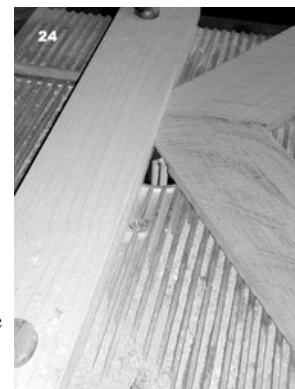
extension. This cut is done at what I think is the proper amount and try to end up with a new edge about as wide as the third piece of wood as in photo 23. I then go back to the router, which hopefully had the same settings as before, and cut a lap at the elbow of the blank and on one end of the remaining piece as in photo 24. Photo 25 shows all the pieces matched up and ready to glue.

Again it is time to mix more epoxy and glue the parts together. You can see why I try to make several of these at once to make mixing the epoxy worthwhile. A relatively small amount is good for several boomerangs.

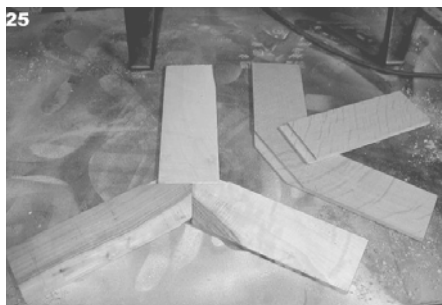
When the blank is dry, remove the clamps and get out your pattern. I often use a Trifly or modification of one for the pattern. If you look closely at the



blank you will notice that the joint lines are centered better on one side than on the other. I recommend using the side where they appear more centered as the top of the boomerang. By laying my pattern on top of the blank, and moving it around, I can get the best alignment of the pattern and blank. When satisfied with the alignment, I trace the pattern and cut out the final shape. See photos 26 and 27.



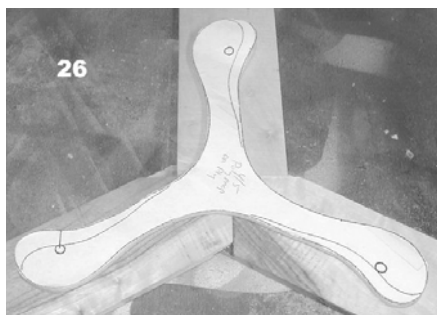
From here it is pretty much the same in the shaping and finishing of the boomerang as in Part One so I won't re-



hash that. Instead we go on to the tricky business of making quads

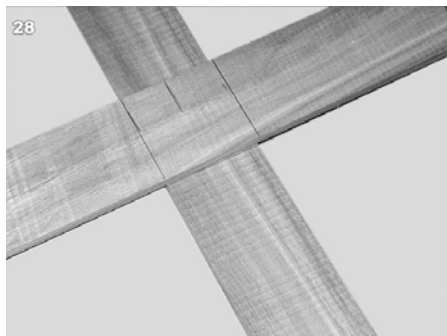
### Quadriblade Construction

Making quadriblades requires exact cuts but not exact measurements. In part one, I said we needed two pieces at

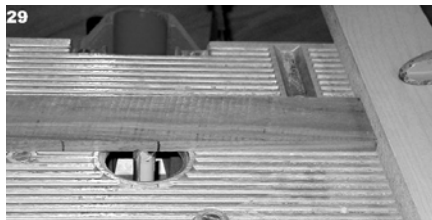


exactly 2" x 12". That isn't quite so. As long as the two pieces are very close to that (1/16" off won't hurt) but are identical in size, all is well.

This requires totally different routing from the previous boomerangs so pay attention and look at the photos. The first thing I do is mark the center of the pieces, lengthwise. Marking that, I try to center the second piece on top by its width. I mark approximately how

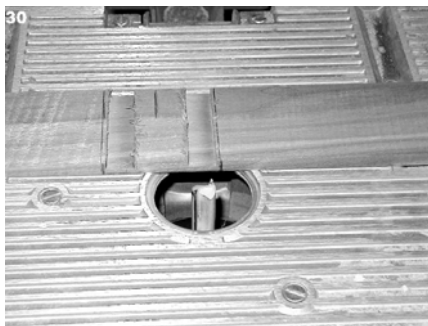


wide I need my cut to be as in photo 28. I next clamp a fence to the router table at a location that will yield a cut just shy of the width needed. Router set up is in photo 29. I make my first cut, with a rather large pusher board, and then flip the piece 180 degrees and cut the same groove from the other end.

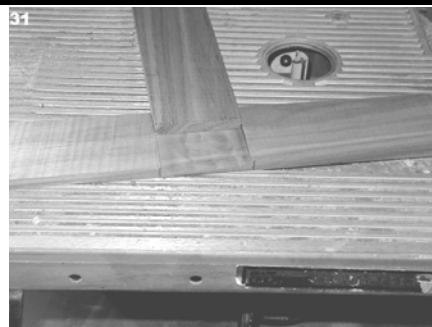


The two grooves are shown in photo 30. I remove the material in between the cuts with a freehand "waste cut". I do the same thing to the other piece. The full width grooves are shown in photo 31.

1. Centering pieces
2. Router table, fence and bit set up
3. Two grooves in pieces
4. Full grooves in pieces



Now it is time to check the fit. If I have done everything as planned, the pieces will not fit, as the groove cut is not wide enough. This is good. You can always remove more wood, but it is very difficult to put any back! I move the fence closer to the bit and make another cut. Sometimes it takes me several cuts to get it right, but by going slowly and making minor changes, you can prevent large errors. Remember to turn the pieces 180 degrees and cut from both ends. With careful work and some patience, you will achieve a perfect fit as in photo 32. Once the width of cut is perfect, don't forget to go back and adjust the depth of cut for a perfect



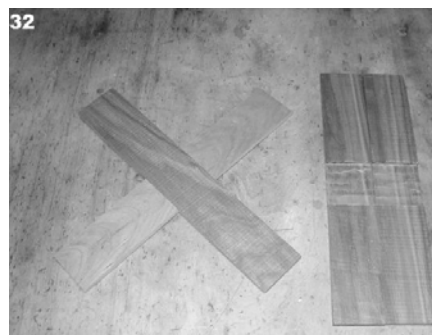
match all the way around.

1. Two pieces fitted together

With both pieces ready, it is easy to spread some epoxy in the grooves and pop the two pieces together. Some of the ones I have made actually required a few taps with my mallet to get them to seat all the way. The joints were extremely close. When the glue is dry, get out your pattern (mine is a Gel Quad), trace, cut, shape and finish. Photo 33 shows a blank ready to trace the pattern.

1. Blank and pattern
2. Final product

You should now be armed with enough information to make one of



these beautiful but fully functional boomerangs yourself. Examples of finished triblades and quadriblades are in Photo 34. As you can guess, they are some extra work but those of us who love working with fine woods, appreciate the finished product and the effort to make it. I want to thank another USBA member, Dr Fred Malmberg, for the instruction he gave me on making lap joint boomerangs. Although his method differs from the method I currently use,

*(Continued on page 12)*

# A new tradition is born?

Larry Ruhf and Kris Johansson throwing and catching boomerangs at their wedding ceremony. Are they the first couple to do this?

This is something the average couple would not think of doing. Of course, Larry Ruhf is not, by any means, the average guy. It goes without saying that this is the case with many of the men in the boomerang community.



We are a strange lot.

October 19, 2002



Wow! You know that Larry's thinking, "Man, I can't blow this catch... Especially now that Kris has hers securely in hand."

Congratulations to the newlyweds!!





# Boomerang Clubs

(and online forums, open shops for instruction, etc.)

Contact info for boomerang throwers around the USA

## UNITED STATES ONLINE

**BOOMERANG TALK** - Your one-stop, non-stop online boomerang club. Keep up to date on the latest info and chatter from the boomerang world. Join at: <http://groups.yahoo.com/group/BoomerangTalk/join>

**USBA\_info** - This is a USBA members only group for the online discussion of issues. This group is closely monitored by the Board which makes for an "open door" policy for complaints or concerns. Join at: [http://groups.yahoo.com/group/USBA\\_info/join](http://groups.yahoo.com/group/USBA_info/join)

Other (local) boomerang discussion groups are available at YAHOO! <http://groups.yahoo.com> - all you need to do is search for "boomerang".

## ARIZONA

### Desert Ranglers

Mark Weary & Don Monroe  
4026 East Cholla Canyon Dr.  
Phoenix AZ 85044  
(602) 759-3973

## COLORADO

**Richard Pollock-Nelson** (Colorado Boomerangs)  
2530 S Ouray Way  
Aurora, CO 80013-1576  
(303) 368-5933

## CONNECTICUT

### The Wandering Nutmeg Boomerang Society

Paul D. Sprague  
782 Boston Post Rd.  
Madison CT 06443  
(203) 245-8211

## FLORIDA

**The Orlando Boomerang Club** meets every Saturday morning at 9:00 to throw boomerangs at Memorial Middle

School. For more information please contact Cookie ([teamgel@cfl.rr.com](mailto:teamgel@cfl.rr.com)) or Mike Hudkins ([Fatfinger@cfl.rr.com](mailto:Fatfinger@cfl.rr.com))

## Flite Stix Boom Slingers

Rich Surace  
855 E Crisafulli Rd.  
Merritt Island FL  
(407) 452-3963

## ILLINOIS

**Rock Island** - Kendall Davis has a fully stocked boomerang shop with several materials to choose from and virtually any crafting tool you may need. *If you make it, you take it!* There is also a guest bedroom for use and the greatest cook in the Midwest prepares the meals. Ph. 309.793.9885 or send e-mail to [boomerang@master-designs.com](mailto:boomerang@master-designs.com)

## INDIANA

### Indianapolis Boomerang Club

Tony Brazelton  
1184 Barrington Dr  
Greenwood IN 46143  
(317) 883-2334  
[brazelami@yahoo.com](mailto:brazelami@yahoo.com)  
<http://www.usba.org/chapters/indyboomclub>

## MINNESOTA

### Minneapolis/St Paul - Boomerang Organization Of Minnesota (BOOM)

<http://www.uboomerang.org>  
current record-holder for most tournaments hosted in a season!  
Contact Stuart Jones  
[circlestixstuk@webtv.net](mailto:circlestixstuk@webtv.net)  
651-228-1393

The Twin Cities Summer Series of Boomerang Competitions runs weekly through October on Saturdays at 3:00 pm, at Como Park (softball fields across from the pool, on Horton) in St. Paul, MN. beginning the 1st Saturday in May.

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Steve Sanders  
10408 Woodland, NE  
Albuquerque, NM 87111  
(505) 294-8842  
<http://homepage.mac.com/boomerangs>

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## TEXAS

### Republic of Texas Boomerang Society

(TexBoom Yahoo! Group)  
Dave Hughes  
1818 Cotton Mill Ct.  
Richmond, Texas 77469  
(281) 341-0934  
[dlhughes001@juno.com](mailto:dlhughes001@juno.com)

## PENNSYLVANIA

### Allentown -

Dave Hendricks  
1086 E Gordon Street  
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(610) 434-7305

## VERMONT

Vermont Boomerang Association  
Paul Gustafson  
South Burlington, VT  
(802) 859-3430  
[paul@vermontboomerang.org](mailto:paul@vermontboomerang.org)  
<http://www.vermontboomerang.org>

Submit or update your listing here by sending e-mail to the editor at: [USBAsec@master-designs.com](mailto:USBAsec@master-designs.com)

## 16TH ANNUAL GATEWAY CLASSIC

May 25, 2003 St. Louis, Missouri

The 17th Gateway Classic in Saint Louis was an unqualified success this past weekend. We had a pretty good turnout of 22 throwers from all over the country including Missouri, Illinois, Indiana, Arizona, Tennessee, Georgia, Kansas, Virginia, Vermont and Minnesota. Lots of marquee names made the trip, like Jason Smucker and Mark Weary of the World Champion Team USA Dogs of Boom. Both US Team coaches, Eric Darnell and John Koehler, traveled to the glorious Midwest for the competition. So, if you didn't make it, you missed a great opportunity to throw with the best and learn from the best! Those who did make it awoke Sunday morning to a damp, drizzly day. The rain stopped before the tournament began, and temperatures were in the fifties.

The field stayed in pretty good shape, with a few nice puddles for dramatic dives. As the morning progressed, the weather got nicer and nicer. By lunch, it was sunny and calm, maybe too calm, as the wind direction was sometimes difficult to

determine. Trick Catch was dominated by Mark Weary, who threw a monstrous 93, missing only the two hand under the leg and eagle catch in doubling. Jason Smucker, Matt Golenor, and Casey Larrance were close, with 77, 75, and 74 respectively. Jason's doubling was highlighted by a chase where, after catching his left-hand clean, he ran after the outsider for the hackey catch. With the insider clenched in his teeth, he hacked the boom ahead of him, still running full speed, then dove for the catch, with a huge splash in a puddle! Accuracy was gravy in the light winds. Chicago Bob and Jason were paired up, and had great throws together, with Chicago Bob winning with 43 points and Jason second with 42. Spike's 39 was great, but not enough to get the coveted St. Louis traveling "Busch-Man" Accuracy trophy!

Australian Round was tricky with the light, but very variable winds. John Koehler and Casey wound up with the winning scores of 70 points. Smoking the Open Division with a huge 68

points was local rookie Matt Kury from St. Charles, a Spike prodigy. MTA was a blast in the sun and calm. No running was required because the rangs never drifted more than 30 or 40 meters. Mark Weary was busting out with the Jonas Light, and had 41, 38, and 32 second flights for a total of 112.39 seconds and the win. Casey was second, hucking HUGE throws with a Snake. You know you've got arm when a pax rang pounds a whole field of Jonas' and Bonas'! Casey ended up with 100.71 seconds. Third place was super-close, and if someone says milking a rang is not important, guess again. Four throwers were within .88 of a second of each other. Juice had 87.97, Chicago Bob had 87.82, Tony B had 87.25, and Delaney had 87.09! That 87.09 won Delaney the Open MTA title.

Fast Catch was won early by Casey, with an all too casual round of 21.25 seconds, including a nice one-hand eagle as the boom zoomed by. Chicago Bob followed with a 23.33, and Juice tossed a nice 24.48 for third. Jeff Arrington and Kendall Davis had personal best rounds of 28.74 seconds

<u>Sport Division</u>			<u>Open Division</u>		
Place	Thrower	Score	Place	Thrower	Score
1	Chicago Bob	23.5	1	Jeff Arrington	18.0
2	Casey Larrance	27.0	2	Matt Kury	19.0
3	John Koehler	28.5	3	Kendall Davis	20.5
4	Jason Smucker	29.0	4	Delaney Mohr	26.0
5	Mark Weary	32.5	5	Bill Wachspress	27.0
6	Matt Golenor	33.0	6	Shaun Loveless	27.5
7	Tony Brazelton	33.5	7	Scott Malick	42.0
8	Dennis Joyce	35.5	8	Thomas Carter	48.0
9	Spike Frazier	53.0	9T	Cody Loveless	51.0
10	Stuart Jones	54.5	9T	Melissa Payne	51.0
11	Eric Darnell	56.0			
12	Tim Maultsby	62.0			

and 29.10 seconds respectively.

Endurance in the calm is always much more fun than Endurance in the wind, and we had both calm and fun. The early pace was set with a rash of 50 catch rounds. Juice, Koehler, and Matt Golenor all got 50 catches. Then, Chicago Bob went up and ripped a 58, only to be edged in the next round when Tony fired up the bus and took us all to school, throwing a one-drop 60 catch round. Jason then smoked a 54 to finish third and bump Juice, Matt and Koehler out of the hardware.

When all was said and done and it was all over, no thrower had dominated the whole tournament. The final point tallies were very close,

so the awards were a surprise to all. Most surprised was Chicago Bob, who won the tournament with 23.5 points in the Sport division. In a close battle for second was Casey and Koehler, with Casey edging out Johnny by 1.5 points, 27 to 28.5. Another 1.5 points back was Jason in 4th. Mark Weary was 5th, 1/2 point ahead of Matt Golenor, who was 1/2 point ahead of Tony. In the Open Division, Jeff Arrington sneaked by rookie Matt Kury by one point for the victory. 1.5 point down was Kendall in third.

The weekend was a lot of fun, with the Missouri Duals on Saturday, the Classic on Sunday, and on Monday, a choice of either mountain biking or a boomerang

making workshop at Spike's hosted by Eric. The Duals set a record for number of teams with eight teams, and all the first-time Dualers loved the format and had a good time.

I tossed up a cheesy web page with the scores for the Classic at:

[www.siue.edu/~rleifel](http://www.siue.edu/~rleifel)

Thanks to all who came and all who helped. It was a great time!

- Chicago Bob



# Stu's Boomerang Finishing

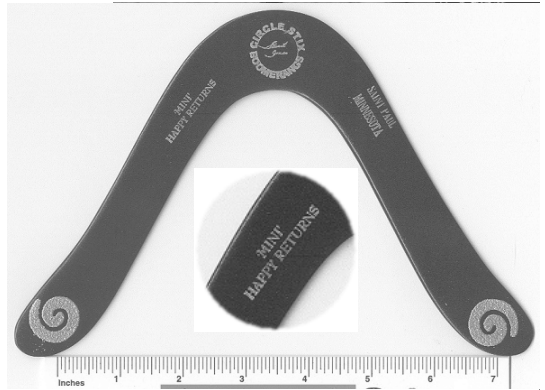
By Stuart Jones

This has to be the WORST part of the boom process for me. Smelly, sticky, dusty, worry of detail, transporting freshly painted 'rangs, spelling etc. Making the boomerang and the throwing it will always be more FUN than finishing, even though some boomsmiths might disagree.

Inspired back in the late 70's & 80's by Rusty Harding and his unique rangs of then (Tomahawk, McDonalds Arch, E-rang) all made of laminated plywood, I was hooked, did I mention the Hurricane Hook? Today after I finish making and testing ply rangs, I'll

follow with fine sanding (180) for paint prep., and in between coats. I have found that no sealer is necessary for paint but bare wood needs some kind of clear poly or sealer because of the absorption factor. Krylon or Minwax paints and polyurethanes are compatible, if you keep the SAME brands together, spray or brush. Kevin Absey of Air Float Boomerangs adds this about plastic - another good boomerang material,"

Though wood is great for boomerangs, I am aware of the absorption properties. That is one of the reasons I decided to use plastic when creating my boomerangs. When painting plastic, I start out with a flat base paint. I found that Krylon makes the best flat paint. The reason for flat vs. gloss is that flat based seems to work like a primer and will bond to plastic much better than gloss. Outside of temperature related issues, I have not encountered any problems with flat base painting. Kevin also says," the clears seam to bond very well to



the flat also."

Last year for the Expo in Seattle I entered the natural elbow contest with a pair of bird booms I finished with a rub-in Danish finish from Tripp (the brand), with several 320 grit sandings between coats.

I've been making/stockpiling lots of retro 80's omega's from Baltic birch again. Mini's that is. Back in that time they were mini sport omegas, now I've renamed them too, The "Happy Returns" (MINI) that is. These mini Happy Returns, have 5 different paint finishes to choose from.

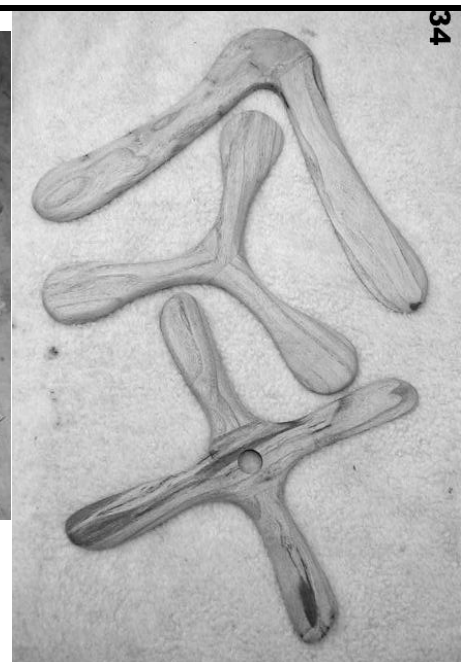
[circlestixstuk@webtv.net](mailto:circlestixstuk@webtv.net)



(Continued from page 7) the knowledge I gained from working with his technique has proved very valuable.

This same article with full color photographs is available online at: [www.bvdrangs.com/HowToPart2.html](http://www.bvdrangs.com/HowToPart2.html)

The thumbnail size photos have links to larger, easier to see, images.



Dave Hendricks boomerangs can be seen online at: <http://www.bvdrangs.com>

# Boomerang Clubs

(and online forums, open shops for instruction, etc.)

Contact info for boomerang throwers around the USA

## ONLINE

**BOOMERANG TALK** - Your one-stop, non-stop online boomerang club. Keep up to date on the latest info and chatter from the boomerang world. Join at: <http://groups.yahoo.com/group/BoomerangTalk/join>

**USBA\_info** - This is a USBA members only group for the online discussion of issues. This group is closely monitored by the Board which makes for an "open door" policy for complaints or concerns. Join at: [http://groups.yahoo.com/group/USBA\\_info/join](http://groups.yahoo.com/group/USBA_info/join)

Other (local) boomerang discussion groups are available at YAHOO! <http://groups.yahoo.com> - search "boomerang".

## ARIZONA

### Desert Ranglers

Mark Weary & Don Monroe  
4026 East Cholla Canyon Dr.  
Phoenix AZ 85044  
(602) 759-3973

## COLORADO

**Richard Pollock-Nelson** (Colorado Boomerangs)  
2530 S Ouray Way  
Aurora, CO 80013-1576  
(303) 368-5933

## CONNECTICUT

### The Wandering Nutmeg Boomerang Society

Paul D. Sprague  
782 Boston Post Rd.  
Madison CT 06443  
(203) 245-8211

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# Boomerang Finishing Technique

By: Dave Hughes

For plywood boomerangs, I've found a rather simple method of achieving durable and (some think) attractive finishes.

Working in the mechanical engineering field, I have used polyurethane materials for various applications, and two properties of this substance make it very appropriate for use in finishing boomerangs; its flexibility and its abrasion resistance. I've noticed on some of my older booms on which I've used other finishing materials such as acrylic paints and lacquers or just plain spar varnishes, the topcoat will crack with age and repeated tunings of the boomerang, thus allowing moisture to enter the wood. This raises little ridges of swollen wood grain on the boom, and opens the door for the deterioration of the wood over time. My recently-developed finishing method, while not eliminating this problem entirely, prevents a lot of this cracking of the finish and the wood, and produces a very smooth, yet 'grippy' finish.

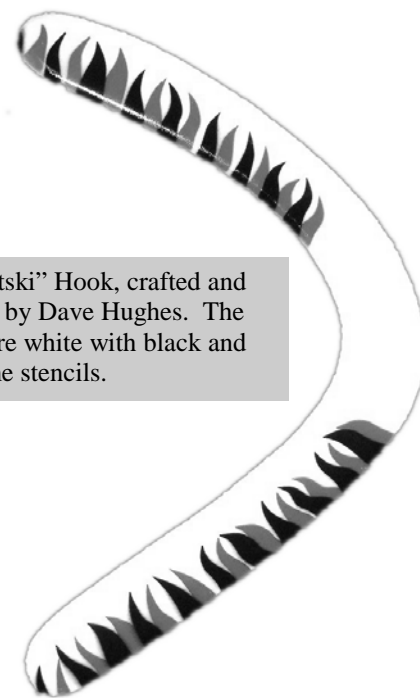
After carving the boom and sanding it to a 'testing' state (and of course, testing it) I then seal the wood with either a commercial sanding sealer, or most often, some thinned brush-on polyurethane varnish. I let the first coat dry thoroughly, then begin the fine-sanding process with about a 180 grit paper. I then apply another coat of thinned p/u or sealer, and after it dries, finish-sand the boom with 220 grit until the desired smoothness is achieved. Then, I apply any color paintwork and/or writing that I plan to do on the boom.

Finally, I apply my clear topcoat to protect the color paintwork and any writing that is applied to the boom. I recently 'discovered' what I consider to be the best polyurethane clear-coat for this. It's Minwax Fast-Drying Gloss Polyurethane in aerosol cans. I'm not

sure if the same product is available as a non-aerosol that one could spray on with a Badger or similar detail gun. This product dries in about 1/4 to 1/3 the time that regular p/u dries, especially if exposed to sunlight or other strong UV light source. Sunlight cuts the already fast dry time by about 40%, at least, over indoor dry time. A boom sprayed with this stuff will dry in about 2-3 hours in direct sunlight, or about 4-5 hours indoors in shade, depending, of course, on humidity levels.

I apply at least two good, wet coats of this p/u, and most often three. It settles out into tiny scratches and 'builds' very well, and cures to a seriously high gloss which tends to hide or mask the tiny little imperfections on the surface of the boom. This is especially good for me, because I really don't go too crazy on the fine-sanding.

Once cured, this material remains somewhat flexible and it's tough as nails. I've yet to wear thru a topcoat of it on the throwing end of the boom, as I



A "Janetski" Hook, crafted and finished by Dave Hughes. The colors are white with black and red flame stencils.

Note: polyurethane is not compatible with acrylic-base paints such as Krylon, or latex-type paints. Oil-base paints must be used over a p/u sealer, AND underneath a p/u topcoat. Krylon and polyurethane do not adhere to one another, at all. If a p/u topcoat is applied over Krylon paints, it will peel right off.

have on some acrylic-finished booms I've either made or purchased elsewhere.

So, until something better than Minwax Fast-Drying Polyurethane hits the market, this is the finishing method I'll use from now on.



Do these guys look familiar? Check out <http://www.boomerang.org.au> for more info about the history and sport of boomerangs in Australia!!

# 19th Gel New Years Boomfest Report

by Richard and Daniel Bower

On January 1st 2003, a group of die-hard boomerang throwers gathered at the Evergreen State College in Olympia Washington. January is not normal for days in Washington when boomerang throwers gather. It was pouring down rain. But undeterred by this slight annoyance the boomers promptly devised a proper course of action. They went inside to the indoor hockey/skateboarding park and throw there. This limited boom choices to 20 meter low flying booms, or 15 meter high flying booms if you threw from the right spot. Most people used foam Air Dancers or Funflies, but Richard and Daniel both threw modified poly Tri-flys, and Gel threw a Quad in GLORP. Much thanks to Doug for sharing a VERY good flap/weight combo for Air Dancers that is just totally RAD! Once inside the fun commenced and the gathered throwers where separated into teams.

Team Pulp Fiction:

Michel "Gel" Girvin  
Daniel Bower  
Dan and Kelly Neelands  
And

Team Pseudonym:

Bryon Seward  
Will "Hurlin Will" Herlan  
Richard Bower  
Doug DuFresne  
And joining partway through the day, coming the furthest out of anyone, all the way from Vancouver Canada!!!!  
Eric Promislow

The two teams once properly organized commenced to throw the following events:

Team: Cauliflower  
Hacky Catch  
Hackuracy  
Supercatch  
Whoa Nelly

And finishing up with the ONLY game that matters.....GLORP!!!

The first event run was Cauliflower, which was very exciting. We received 6 catches from the California group

that the teams had to attempt, the combined total of the number of catches made by each team would determine the top score. The catches were:

Head hacky to behind the back catch  
Body catch  
Hand to bottom of foot catch  
Under the shirt catch  
A variant of the butt catch, where you plant your left hand on the ground, and use your right hand to catch the boom on your rear end. Both feet could be on the ground.

The catches where hard, and there were many "oh craps" and "darn its" but the 2 teams where each able to make a total of 8 combined catches per team, ending the first event in an impressive tie.

Results:

Team Pulp Fiction: 8  
Team Pseudonym: 8

Rolling right along the second event, Hacky Catch was started up right away. For those that might not know Team Hackey Catch is run by having one team member throw a boomerang and then the team as a whole tries to hackey it the greatest number of times, and catching, without the same person touching the boomerang twice in a row. If the catch is dropped, or the same person touches the boomerang more than once before someone else on the team hackeys, or catches the boom, the score for that throw is zero. Hackeys can be made with any part of the body. Most people prefer to use a pretty safe and sure two handed hacky, with the palms facing up. The scores for each throw were:

Team Pulp Fiction	Team Pseudonym
1: 0	1: 0
2: 4	2: 5
3: 0	3: 6
4: 4	4: 0
5: 4	5: 5

The grand total for Team Hacky Catch was as follows:

Team Pulp Fiction: 12  
Team Pseudonym: 16

On to team Hackuracy the throwers

went, where scoring is done by multiplying the number of hackies by the point ranking in the standard USBA bulls eye.

The scores for each throw were:

Team Pulp Fiction	Team Pseudonym
1: 74	1: 90
2: 92	2: 70
3: 72	3: 106
4: 110	4: 110
5: 110	5: 86

Final score:

Team Pulp Fiction: 458  
Team Pseudonym: 462

After this it was time for Supercatch, where one thrower throws an MTA (Or in our case what ever floated the most out of our indoor gear.) and the others try to get as many catches as possible, total score is number of catches for all throwers. There is no score for that throw if the MTA is dropped. This event ran very well, as no MTA's were dropped. (NEVER be the guy to drop your MTA. It sucks! :-\ )

Scores for each round were:

Pulp Fiction	Pseudonym
1: Eight points	1: Eight points
2: Seven points	2: Nine points
3: 11 points	3: Six points
4: 11 points	4: Seven points
Total score: 37	Total score: 30

Team Pulp Fiction edged out a win in this one, but Pseudonym still had a one point lead as we went into the last team event WHOA NELLY!

WHOA NELLY is scored using points for given trick catch's, which accuracy circle you were in, and consecutive catches. All these points are added and you have your score for the throw. Everyone throws at once and there are 5 rounds.

The catch's for WHOA NELLY and their point values were.

Chicken Eagle 15 points  
Body catch 15 points  
Crawdad 10 points  
Hackey 10 points  
Spinning Eagle 10 points  
Elbow Hackey 5 points

(Continued on page 16)

# 19th Gel New Years Boomfest continued

(Continued from page 15)

Gratuitous Diving 5 points

CPR catch 5 points

And for each consecutive catch you got an extra 5 points.

The scores for the event were

Pulp Fiction	Pseudonym
1: 70 points	1: 51 points
2: 58 points	2: 33 points
3: 63 points	3: 19 points
4: 73 points	4: 35 points
5: 92 points	5: 37 points

As you can see it went quite well for Pulp Fiction. Gel and Daniel made many crowdads, some in the bull, while everyone else mostly went for the dive points, with some trick catch's put in for good measure. Everyone got lots of points for consecutive catches too! Pseudonym as one of their members said "We just didn't do that well." So we then ran the scores to see which team had won the show and..... IT WAS A TIE!!!!!!!!!!!!!!!!!!!!!! Even if it had not ended in a tie both teams would have been proclaimed tied anyway. But it was a tie, only the third or fourth time all teams had tied according to Gel.

And then it was time... time for the event that everyone really came to see and experience, the only event that REALLY MATTERS.....GLORP!!!! Thus the event started right off with some good catches. Pink flamingos both standing and jumping, Mike Gel Specials on the ground as well as jumping, the very hard between the knees catch, 360 behind the back, fist hacky to under the leg, and the new never before seen by anybody except the weekly Greenlake throwers who were present (Gel, Richard, and Dan) Chickeneagle. Throwers tried their best to make all the difficult catches, making some but missing just as many, until it was down to the three Greenlake throwers. Dan, Gel, and Richard, at this time the rest got to sit back and watch some of the most difficult and innovative catch's seen. Such as the fisting chickeneagle, the flying head hacky catch, and the head to hand to foot

hacky to head catch. Well at this point the letters where; Dan was GLORious, and both Gel and Richard were GLOing. Richard had domination and decided to do a catch he'd never made before. So he threw his boomerang and upon return launched himself into the air, with the grace of an overweight moose, he completed a 360 degree Mike Gel Special. A large cheer went up from the crowd, in response to this incredible catch. Daniel leaped and spun, appearing to catch the boom, tripped and rolled upon landing hitting the unforgiving concrete floor. Everyone thought he made the catch, but Daniel ruled he trapped the boomerang, thus GLORPing out. Gel's catch was textbook nothing else needs to be said. After this Richard and Gel traded off with some very difficult catch's, such as the in the lap body catch, the chair, and a flying 360 head hacky, they also made some very good catches like the fist hacky to pink flamingo, and a chickenwing hacky to pink flamingo. Richard after trying once before on another throw decided to try again

and made an extremely hard chickenwing hacky to Mike Gel Special. Gel with a nod of recognition to this very difficult catch, did his and in the opinion of this author (Richard) made the catch, but Gel came up shaking his head declaring that he had trapped the boomerang against his "rear end."

And so the game was over, there was much rejoicing and slapping of backs, the sprit of radness was in the air as the prize booms and trophy's were handed out. The prize booms were sent from Colorado Boomerangs to Gel who then painted them with Dan and Kelly Neelands, all of course looked totally rad. Every one received a Team Gelarado prize boom, one paint stick boom made by Pete Gibson, and a trophy, made in the Neelands shop. The top five GLORPERS also received trophy's left over from world cup, which are totally rad. After prizes the boomers went to Apollo's pizza & pasta to eat, and talk about whatever happened to come up. Where then they separated until fate obliges them to meet again.

## 'Rang

Natures warm breath politely inquired,  
 "What is this toy, freshly acquired?  
 With trailing edge sharp and leading edge thick.  
 What is this mysterious half bent stick?"

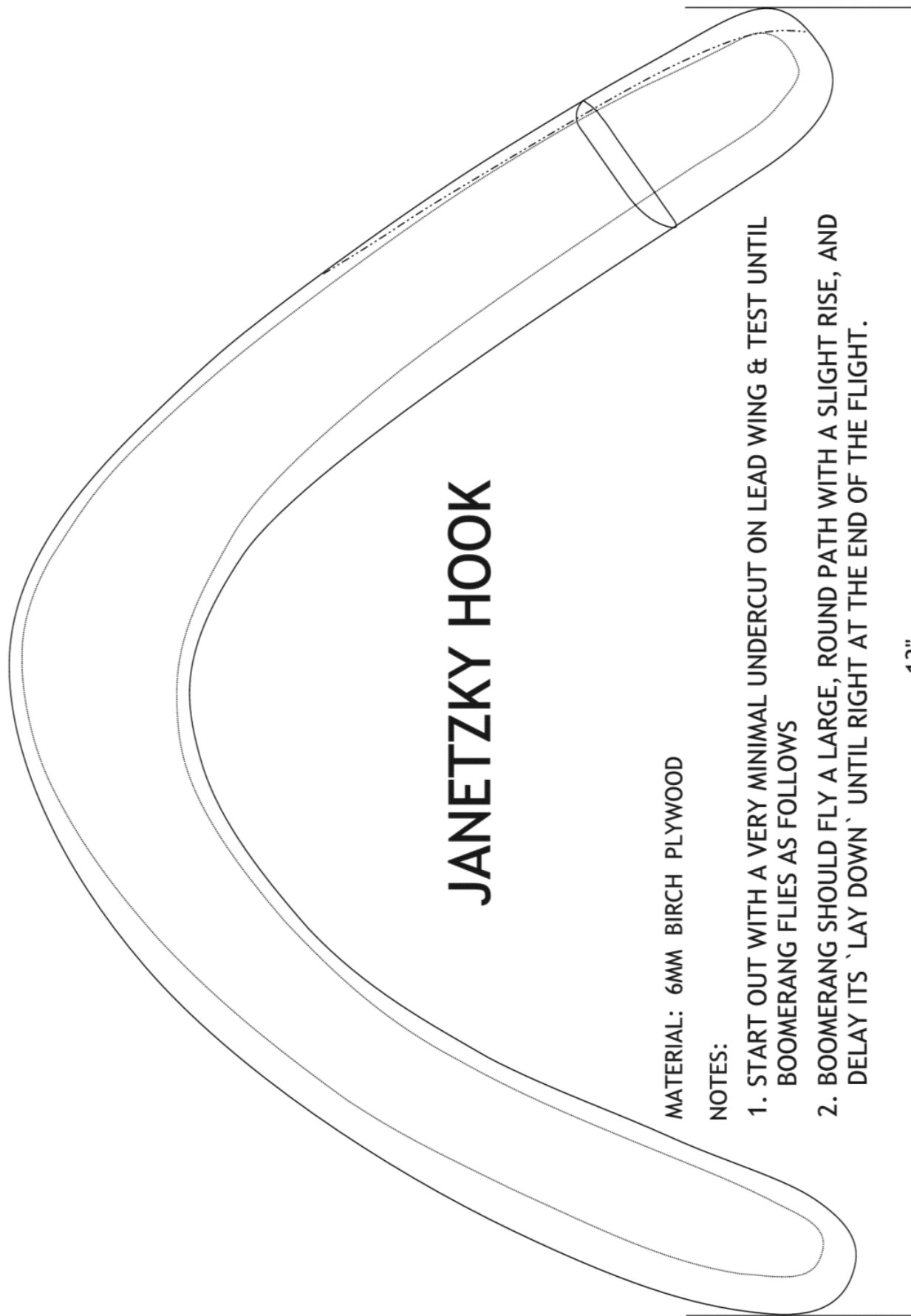
She listened thoughtfully as I replied,  
 "A boomerang! It surfs the heavens' tide."  
 And with that, I hurled it to  
 That She might have a closer view.

She spun it round and screamed delight,  
 Then turned it to a greater light,  
 And raised it high so she could see  
 It's supple curving symmetry.  
 Then thoughtfully laid it flat,  
 So she could gently hand it back.

Now, I think she likes this stick okay.  
 We play this game most every day.

Written by John Harp





# JANETZKY HOOK

**MATERIAL: 6MM BIRCH PLYWOOD**

**NOTES:**

- 1. START OUT WITH A VERY MINIMAL UNDERCUT ON LEAD WING & TEST UNTIL BOOMERANG FLIES AS FOLLOWS
- 2. BOOMERANG SHOULD FLY A LARGE, ROUND PATH WITH A SLIGHT RISE, AND DELAY ITS 'LAY DOWN' UNTIL RIGHT AT THE END OF THE FLIGHT.

13"

# Steam Bending 101

by John Cross, Alberta, Canada

There are basically two different ways of making strip lam booms. The first way is to bend thick strips into the desired shape by heating them and then bending them around a form. Once all the strips have cooled and are set in their shape, they are glued together. The other way is to take veneers and glue a lot of them together while they are bent around the form. The two methods have similarities and differences.

With veneers, you don't need to pre-bend as the pieces of wood are thin enough that you can bend them around a corner without them breaking. Veneers have the advantage of letting you mix colors to get all sorts of cool effects and stripes. The down side is you need a lot of them, a lot of glue, and have to be really careful when gluing up or the layers will be wavy. I won't go any further into veneer laminated booms because I haven't actually made one (yet). Besides, Pat could offer much more advice than me. He helped me a lot when I was figuring this stuff out.

With steam bent strips, you don't need to worry about the wavy part as much because the strips are too thick to have much give when cool. You also don't need nearly as much glue since you only need to put glue on about 8-10 strips as opposed to 60 or so. If you still want a few nice colors, you can put in veneer accent strips between a few of the steam bent strips to add a bit of interest. The downside is that steam bending is fairly tricky.

Steam bending takes advantage of this nifty feature of wood that when heated to the temperature of steam, the fibers in the wood become plastic and are readily compressible. When you bend a strip around a corner, you are actually just compressing the inside of the curve. You could do this with dry heat as well but controlling the temperature of dry heat is tricky.

You can bend wood either by using steam or by using a trick used by guitar luthiers where they bend the wood over a hot pipe. Both will work. I haven't tried the hot pipe trick but know someone who has.

The basic idea of the hot pipe, is to

move the strip back and forth over the heated pipe until you feel it starts to plasticize. Since you can feel when it starts to be bendable, it is easy to determine when the magic temperature of the wood has been reached. Free-hand bend the strip to whatever you like. The disadvantage of this method is you need to bend each piece individually and they may not match if you are not careful.

Steam takes a lot of the guess work out of it. The temperature of steam is fairly consistent so long as it is not under pressure. Since steam is easy to control (no worries about over heating or charring the wood) and already the right temperature, that is the method of choice. Using steam also lets you bend all the strips at the same time so they will all fit together every time.

Some woods are better than others for bending. I found oak and ash to work well. They can be bent even if the material you are using is kiln dried. I had less luck (zero) with maple, cherry, and mahogany. I know they can be bent because I've seen stuff made from bent stock in those materials. I suspect the wood has to be greener and/or thinner when you bend with those woods though. Then again, maybe all you need is to have better luck than me. Pre-soaking the wood in water was offered as a suggestion but I never tried it.

One of the depressing parts of steam bending is you only have exactly one chance to get your bend right. You can't re-steam a bent piece without risking breaking it. If you run into any problems, it is fairly likely you will end up with a pile of kindling. I've got a fairly big box of scrap wood to show for my mistakes. You also have to steam the wood for the right amount of time. If you steam too long or not long enough the strips will break. Likewise if you are too slow getting your bend complete they will be too cool to finish the bend. You need everything to work out perfectly if you are going to steam bend wood.

The strips you use should be as straight grain as possible. Any grain run-out along the length of the strip makes breaks much more likely since there is a weak spot when you make your bend. I

also chose my pieces with a certain grain orientation. Check out the picture attached for the proper orientation. The reasoning behind it has something to do with shrinkage. I don't know how much of a factor the grain orientation actually is but it is recommended to do it that way by John Cryderman. John is fairly well known for making pretty nice strip lams and apparently learned a lot of what he knew off Al Gerhards. I was willing to take his word for it. He uses greener wood though so it might not make as much difference if you are using dried wood.

Each strip should be cut to length with a couple of extra inches on either side to compensate for the bend not happening exactly where you expect it to. I think mine were about 22 inches long for a tornado sized boom. Each strip was about 1 inch wide (although you could cut them any width depending on your form) and about 4mm thick. They were not sanded smooth before or after being bent. I've been told that a rough surface will hold 10 times as much glue as a surface run through a planer. Seem like a good enough excuse not to sand anything to me. I cut mine using a band saw but a table saw will work equally well.

To steam bend, the first thing you need is a steam box. I tried about 4 different variations before I found one that actually works ok for what I needed. My first was a 4 inch diameter plastic pipe about 2 feet long. It got soft and sagged in the middle when hot. It also lost too much heat through the sides so the wood inside never got up to temperature. I broke lots of wood in that one. Avoid plastic pipes even though a number of sites on the net say they will work. Eventually I settled on a steam box made out of plywood and 2x4s.

There are a few key design elements of the steam box. The first is to make it only as big as you need. If you make it over-size, you just need more steam and you are risking not getting the whole thing up to temperature. Mine has space for either 9 or 10 strips. You need some way of suspending the strips off the

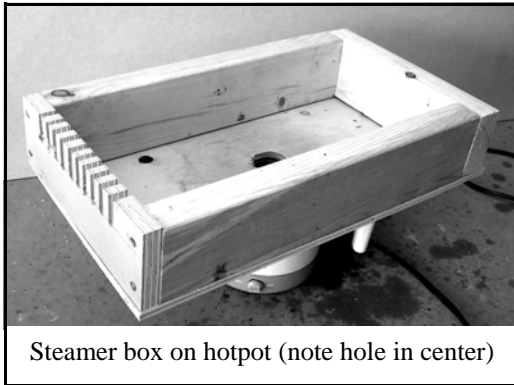
*(Continued on page 19)*

# Steam Bending 101 (cont.)

(Continued from page 18)

bottom of the box so they aren't sitting in a pool of water and they should be separated so that when you are steaming, the steam can circulate around each piece. It is also really great if you design it so that you can get the strips out really fast as you need to work quickly once they are finished steaming. The box doesn't need to be airtight. It is not going to hurt it if there are little holes every once in a while so steam can escape. An airtight box may actually result in over heating the strips which is apparently just about as bad as under-heating them. The point is, you don't need to be too careful when building it. Some leaks are OK but don't be so sloppy that you have gaping holes all over the place though either.

My design is a 2x4 frame with a plywood top and bottom. It is about 10 inches wide and maybe 20 inches long. Plywood bottom (either 1/2 or 3/4 inch plywood) is nailed to the frame (although you don't need to do that) and has a hole about 2 inches across in it where the steam enters the box. The plywood top just sits on the frame and can be lifted off easily. One end has slots cut into the 2x4 that a strip can be slid into. There are about 9 or 10 of these slots. The slots keep the strips separated and since they just rest on an angle, the strips are not sitting in any water (except maybe the very end). You only need slots in one end. You can put them on both ends but it isn't required. It just makes getting the strips into the box right harder and reduces the thermal efficiency of the box (more leaks). You might think that it is silly only to steam one end. So long as you are steaming the area that is to be bent, you will be fine. One of my first designs for a steam box only actually steamed a section about 8 inches in the middle of the strips. I got my first successful bend



Steamer box on hotpot (note hole in center)

using that box. The design of this steam box makes loading it easy, and allows you to make booms with either just a single bend in the middle or a bend in the middle and a bend in one arm (such as a hook). If you want to make an omega, you may have to figure out a different system or build the box longer.

The steam box sits on an electric hotpot with boiling water in it. The hotpot I used is a cheap one I had in university I used for making pasta when I didn't have access to a stove. An



electric kettle or any other source of steam will work fine if you can figure out a way to direct the steam into the box. Regardless of what you use for your source of steam, it needs to have enough volume

that you can boil water in it for about half an hour without it going dry. You can't add cold water to the hot pot partway through if you start to run out of water because it will mess up the steaming process. I think the volume of mine is in the order of about a liter and a half which is sufficient for bending 4mm strips. After half an hour, there is about an inch of water left in the bottom.

The next thing you need is a form for bending the strips around. It should be the final shape of the boomerang you want to make. It should follow the inside curve of the boom. Take lots of care making sure it is smooth as the shape of your boom will follow the shape of your form. If it has a big bump in it, so will your blank. The form needs to be strong and have

lots of places where you can attach clamps. I cut triangular holes every once in a while to accept one end of a big C clamp. I made my form out of two

pieces of 1/2 inch plywood screwed together. If you are bending wider strips, the form will need to be wider as well. I also added alignment pieces so I could get all the strips set up right really fast. I could just drop a stack of strips into a slot

and didn't have to worry about them falling off the form if I let go for a second to grab a clamp.

Speed is one of the key factors if you are going to steam bend. Before you start steaming, make sure you have everything set up. You need to be able to get the strips out of the box, clamped onto your form, bent around the corner and clamped into position in under a minute. If you fumble with the clamps or the pieces spring off the form, they are all ruined. You can't re-steam them. If you take too long to get everything set up, the strips will crack because they are too cool to bend. You have to be efficient. Have a helper handy if possible as it can be tricky to hold

everything in place while reaching for that last clamp. Go through a few practice runs as well just so you know exactly how long it will take you to get everything out of the box and lined up on the form. I set my form up vertically in a workmate type vise next to my steam box so all I have to do is take the strips out of the box and turn around to get to the form.



Now that everything is ready you just need strips. I cut mine about 4mm thick. The general rule of thumb for steam bending is one hour for each inch of thickness. However, that is just a guide

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www.users.bigpond.com/jefflewy/  
A variety of information about boomerangs. The boomerang page includes history and stories that are fascinating.

### Bumerangue.com - Brazil

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Check your newsletter label for the MHR issue # when your membership expires. Membership status questions or missing newsletters should be reported to Thomas Carter or any board member. (page 2 of this publication.)

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Comments on newsletter content, and submissions for inclusion should be sent to the editor at the address below. The editor reserves the right to edit all material. Inclusion is not guaranteed.

Kendall Davis  
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Rock Island, IL 61202  
309.793.9885  
boomerang@master-designs.com

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to get you going. For oak or ash strips that are 4mm thick, they need exactly 13 minutes in the steam box. 14 minutes is ok but some may break. 15 minutes and they will all break. 12 minutes and they will all break. You don't have a lot of room for error. If you cut



your strips thicker, you can naturally expect to have to leave them in the steam box longer. Regardless, I would recommend doing a practice run to determine how long your strips will take since not only are your strips likely not the same thickness as mine but also the temperature I bent them at will likely be a few degrees off of what you will steam them at (since water boils at lower temperatures at higher elevations). Load up your steam box and pull one out at exactly 11, 12, 13, 14, and 15 minutes and try bending them. Keep track of where your bending window is and steam all your strips for exactly the same time.

I should also mention that your steam box should be pre-heated and steaming for at least five minutes before you put any of the strips in. Put towels or

rags over any of the bigger holes to minimize the loss of steam so it stays hot. This lets you steam your strips more consistently since the box should be at a stable temperature when you

insert the strips and not still heating up

Once you are all ready to go and after the steam box has pre-heated, slide all the strips into the box as quickly as possible. I set them up so

they only need to be pushed in. I can load all 10 strips in about 5 seconds. Put the towels back to cover any holes and sit back and wait for the time needed to steam the strips.

Once the time required has elapsed, take off the plywood top of the steam box and take out all the strips at the same time. They can all be just lifted out so you don't need to fumble around with getting them lined up like you might if you pulled them out one at a time. Use gloves because they will be hot. Get them all lined up and clamped to the form. Be quick because you

don't have much time. I put the cool end (the end on steamed) under the clamps since it will be straight anyways (see picture). If you are making a hook, put the straight dingle arm into the side with the first two clamps. The flared lead arm will need to be done with the assistance of clamps as there is no way you can put enough pressure by hand to get that little bend in there.

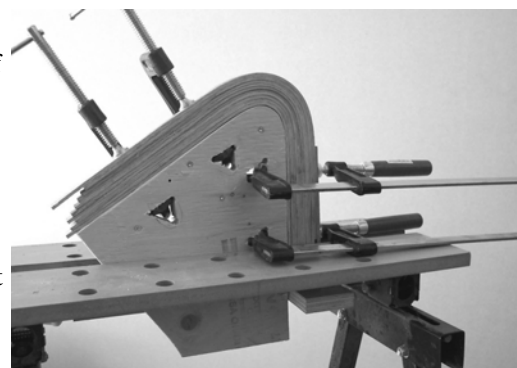
Once you have two clamps holding the strips onto the form, start bending. You will really have to lean on it and it will get harder as they

cool. Push slowly but deliberately. Make sure you push not only the end of the strips but closer to the elbow as well. This will reduce the number of broken strips you get. Once all the

strips are bent around the corner, have you helper put the clamps on the other side.

The whole operation should have taken you less than a minute. If things went according to plan, you should have a stack of 10 strips bent around your form. If not, you just made some nice expensive kindling you can use to impress others around your next campfire.

Let everything sit on the form for about a week. You probably don't need to let it sit that long but it's not going to hurt. You could take the clamps off as soon as the whole thing is cool but you will get much more spring-back than if you leave it. When you take off the clamps, a bit of spring-back is



normal (if you bend your strips to about a 75 degree angle, when you take the clamps off they will bounce back to about an angle of 80 degrees or so). It is not that big of a deal as you can force it back to the original angle with clamps if you so desire. Either way, you are now ready to glue anytime you want.

For glue, I use a cold cure epoxy that has a pot life of about an hour. That gives me lots of time to mix up what I need and apply it to all surfaces. I'm sure ordinary woodworking glue would work fine too but you may need to dilute it like you do like if you are making a veneer lam just so you can get glue on everything before the glue starts to set up.

You can either clamp it back onto the form (make sure you wax the form well or cover it with plastic wrap so you don't end up gluing your boom to the form) or if you are not all that picky about having the exact angle you

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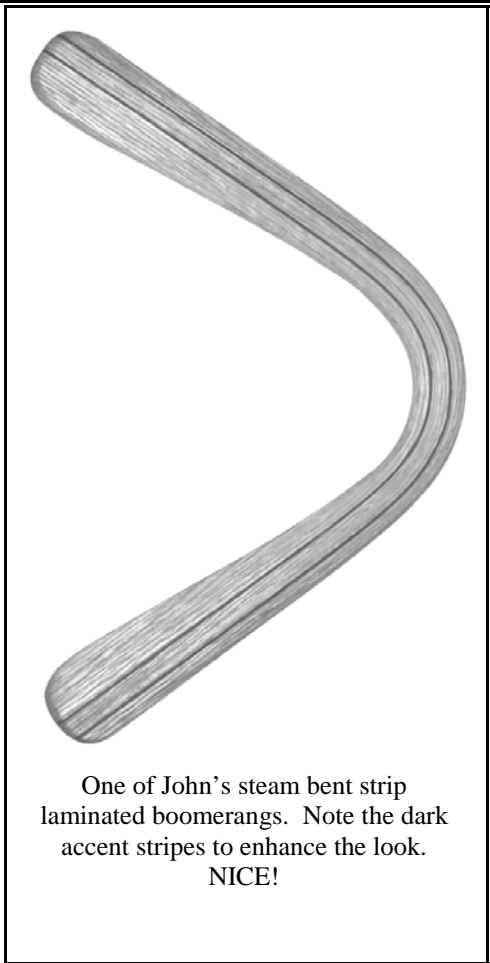
were originally after, you can just glue them up without the use of the form. Both ways work once you have pre-bent strips. My first one was done off the form with the thought that I would end up with a boom with no stresses in the wood. After having done it both ways, I doubt it really matters much. You can't tell the difference in the final product. Be sure to clamp everything tightly and evenly regardless of which approach you take. I'd suggest trying to use as many clamps as physically possible when gluing to make sure all your glue lines are smooth. Also be sure to lay down some wax paper or something under everything as you will get lots of glue squeezing out of the joints all over your table.

Leave it another week so the glue is well cured then you are ready to go. If your strips were 1 inch wide like mine, you should be able to get 3 blanks off it or if you get greedy like I was the first time, 2 blanks and 2 duds that are too thin. I cut each blank around 7mm thick so I can thin it down to 6 mm later. I used my band saw to slice off the blanks but you might be able to do

it with either a handsaw or a jigsaw set up in a vice with a fence. Apparently, Al Gerhards used a table saw to slice off his blanks but since I am not all that comfortable around table saws (I like my fingers where they are) I would lean towards a slower, safer method.

Once you have a blank, sand it to consistent thickness, airfoil as normal, finish it, show it off to all your boomerang friends and get ready to dodge the questions about why you insist on doing things the hard way.

Steam bending is really satisfying if you manage to get it to work. For me it ranked almost as high as the satisfaction of the first boom I ever made or the first time I ever threw over 100m (or at least thought I threw over 100 m). However it was really frustrating for those two months while I wasted lots of wood. Strip lams make carving all other kinds of booms (with the possible exception of composite MTAs) seem like child's play in comparison. I should probably warn anybody wanting to try it not to expect anything but lots of broken sticks for the first while. It's definitely cheaper and easier to buy plywood but not nearly as satisfying.



One of John's steam bent strip laminated boomerangs. Note the dark accent stripes to enhance the look. NICE!

## BetWil Booms - Sport to Comp

Will Gix has been making BetWil booms for several years, and the quality and craftsmanship really comes out in each boomerang he makes. The names are not run-of-the-mill, either. With names like Dink, Kestrel, Wishsong, Shrike, and Shookumchuck, you would think they must perform well. If not, the result may be something akin to a bad Jim Carey movie.

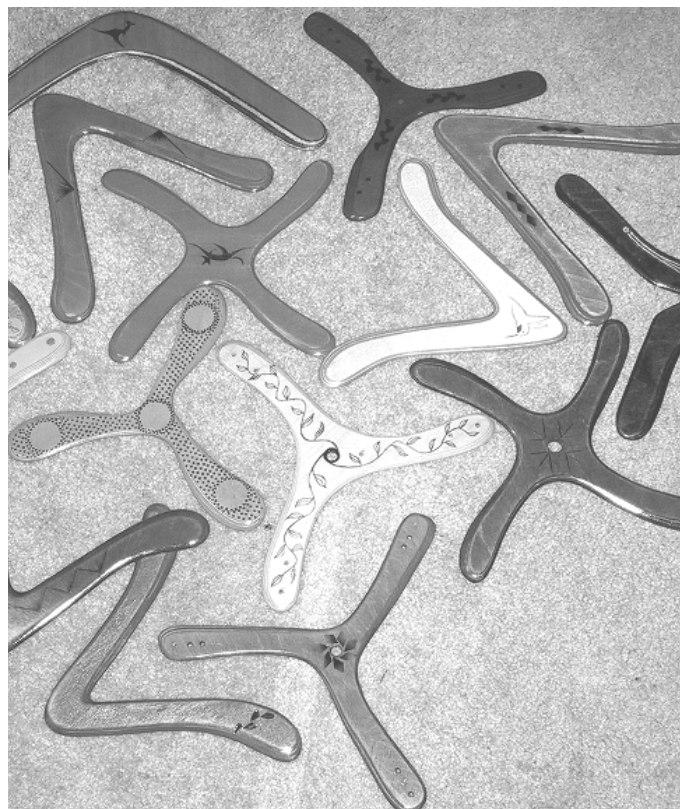
No disappointment here, though. I can personally vouch for the quality and flight of each one I have thrown. My personal favorite is the small "V" shape called the Wishsong. It has a beautiful circular flight, and an lovely finish for an easy catch. I recently witnessed a rookie thrower score a nice fast catch

round using the BetWil boom similar to the one at the bottom of the photo to the right. It appeared to be tuned perfectly for his hand.

Will does most of the work on the boomerangs, but Betsylew gives input on wood burning designs and other artistic features. From what I have witnessed, they make a great team when it comes to building high-quality boomerangs.

BetWil booms can be purchased directly from Will at betwil@att.net or through regular mail or by phone.

BetWil Boomerangs  
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## Calendar of Boomerang Events

**For the most complete and up to date listing of boomerang events, check the USBA web page at [www.usba.org](http://www.usba.org) or contact the editor. Information on this page is subject to change without notice.**

**June 15:** 8th Annual Greater Seattle Open Boomerang Tournament at Dahl Field, Seattle. Registration starts at 8 am. Contact TD Betsylew Miale-Gix at [betwil@att.net](mailto:betwil@att.net).

**June 21:** Larry Ruhf's tournament in Massachusetts. He is having it at Stoneleigh Burnham School in Greenfield Ma. For more info, call Larry at (413) 625-6959.

**July 12, 2003: 4th Annual Vermont Tournament**, hosted by Paul Gustafson. See [www.vermontboomerang.org](http://www.vermontboomerang.org) for details.

**July 19:** Adam Zuelzer Ruhf ([adamruhf@hotmail.com](mailto:adamruhf@hotmail.com)) will be hosting a tournament in Emmaus, PA, at Percy Ruhe Park (or another appropriate location). This will include ALL NEW EVENTS!

**July 26: Western Oregon Boomerang Roundup XVI**  
McKay H.S. Soccer Fields  
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Standard USBA events and tournament format. Registration begins at 8:30 am  
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Tournament Director: Dean Kelly  
[boomchuck@attbi.com](mailto:boomchuck@attbi.com)  
(503) 581-8050

**August 16-17: Kitty Hawk Tournament/100th anniversary of flight celebration.** First Flight Elementary School Nags Head, North Carolina. Hosted by John Harris and Kitty Hawk Kites. For info, contact John Kohler at [john@koehlerstudios.com](mailto:john@koehlerstudios.com)

**October 16-20 2003: Houston, TX - The 2003 USBA National Boomerang Expo at George Bush Park (formerly Culler-Barker Park):**

This annual weekend of boomerang events includes the national championships, distance and craftsmanship design competitions, seminars, speakers, the biggest boomerang auction of the year and boomerang parties! Details will follow in the next MHR. For up to the date info, see the web page at [www.usba.org](http://www.usba.org) or contact Dave Hughes at [dlhughes001@juno.com](mailto:dlhughes001@juno.com) or Tony Brazelton at [expo@usba.org](mailto:expo@usba.org)

**Spring 2004: U.S. Team Trials** for the U.S. World Cup Team. This will be an open trials, tentatively held in Kitty Hawk, NC with sponsored by Kitty Hawk Kites

**To list your event please email [usbasec@master-designs.com](mailto:usbasec@master-designs.com)**