

Many Happy Returns

The Official Newsletter of the United States Boomerang Association

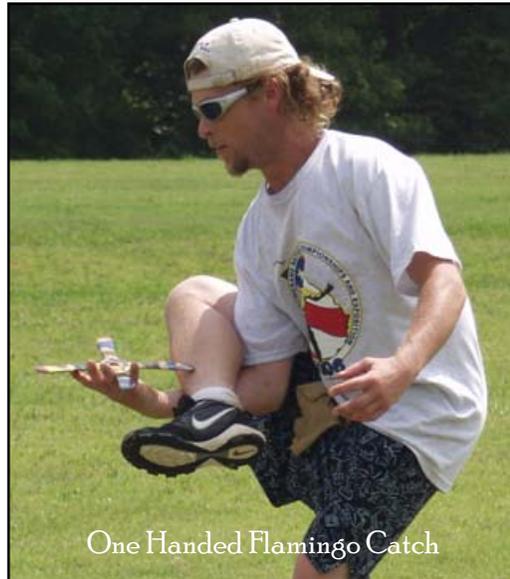
E-TICKET

A long time ago a ticket book was used at Disneyland. The “E” ticket was used for the best and wildest rides. This years US Nationals ended in true E ticket fashion.

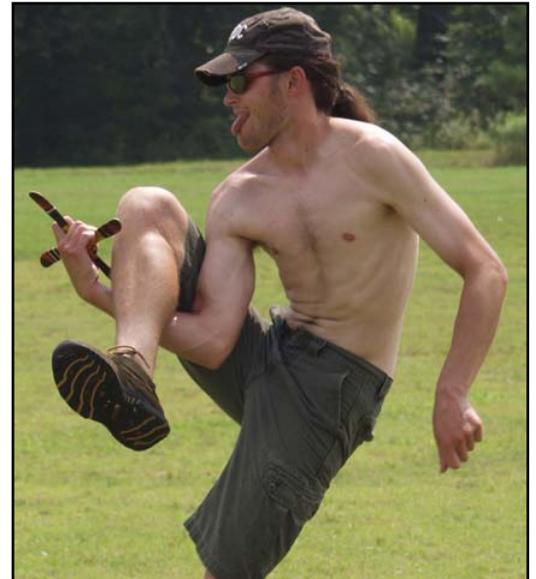
By M. Mohr

This game of GLORP was a wild ride and came down to Stevie K. and Richard Bower, who outlasted a field of forty or so throwers to go head-to-head in what amounted to a modern day gunfight. But instead of pointing six-shooters at each other they were lobbing acrobatic boomerang catches back and forth until only one was left standing.

With eight throwers remaining (Stevie K, Richard & Daniel Bower, Logan Broadbent, Lars Overzee, Matt Golenor, Juice and Mike Dickson), things started to get interesting. Mike Dickson had missed his last catch and after receiving his “P”, he was out. Stevie K was in the lead at the time with only a “G” or possibly a “GL”. And in a bold display of moxie Mike decided to offer up his one and only lifetime “E”.



One Handed Flamingo Catch



Flamingo Head Catch



To see how this classic game of GLORP ended go to page 24 for all the details

The 1st International US Boomerang Team From 1981

(And the bottom picture taken 25 years later at Barnaby's tournament in Emmaus, PA 2006)



'81 International Team Back Row (left to right): Peter Ruhf, Carl Naylor, Eric Darnell, Al Gerhards, Larry Ruhf, Doug DuFresne and Dr. Steve Miller (Ali's husband) Front row (left to right): Chet Snouffer, Ben Ruhe, Barnaby Ruhe, Jerry Caplan and Ali Fujino.



The '81 team today (left to right): Eric Darnell, Barnaby Ruhe, Jerry Caplan, Doug Dufresne, Al Gerhards and Larry Ruhf. For more pictures see details from Barnaby's tournament in the Regional Tournament section of this newsletter.

Message from the President

Dear Boomerang Enthusiast,

I hope this issue of MHR finds you well after a terrific summer of boomerang throwing. As you may know, we have a new National Champion in Harald Steck, the mustachioed master from Philadelphia. Rumor has it that his secret is a pre-tournament meal of Tofuschnitzel and a side of julienned bell peppers! Now that the weather is turning cooler I encourage you to get outside and enjoy the brisk air with some boomerang throwing. Some folks avoid the winter months, but I find them to be the most invigorating. Often I'll find myself reveling in the majesty of boomerang flight with

the backdrop of the beauty of the seasons. One of my fondest throwing memories is a time in Canton, OH throwing in a vicious snow-storm. Gigantic flakes poured down illuminating every little bend and nuance of the wind. The only trouble with snow ranging is that if you're not careful, a fallen boomerang could be easily lost! Winter is also a terrific time to let your imagination run wild in the workshop. Often one's best and most creative ideas come during these periods as well. Rest assured that the board of the USBA will take advantage of these months working towards advancing our sport and craft. Have a great time and get out there and toss a few!

Rang it up,
GOGO



USBA President Matt Golenor (right) at 2006 US National Championships, pictured here with Jason Smucker (left), who hosted the tournament along with wife Laura.

Ballot for the USBA Board of Directors 2007

Listed below are the candidates for the USBA Board of Directors for 2007.

President - Matt Golenor
Vice President - Dan Bower
Treasurer - Betsylew Miale-Gix
Secretary - Andrew Cross
At Large:

(You may vote for 5 of the 6 "At-Large" nominees).

- Joe Rader
- Mark Legg
- Pat Steigman
- Stuart Jones
- Logan Broadbent
- David Hirsch

Please cut out this ballot and send your votes to:

Andrew A. Cross
28 14803 Miller Blvd.
Edmonton Alberta Canada
T5Y 3A4

or

Email your votes to:
across@telusplanet.net

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Boomerang Clubs

Contact Information For Boomerang Throwers Around The USA
Including Online forums

ARIZONA

Desert Ranglers
Mark Weary & Don Monroe
4026 East Cholla Canyon Dr.
Phoenix, AZ 85044
602.759.3973

CALIFORNIA

S.C.O.R.E.
(Southern California Organization of
Rang Enthusiasts)
SCORE has a bi-monthly throwing
session. Morri Mohr, John Villagrana
& Kris Kemp
Hermosa Beach, CA 90254
310.493.7100

COLORADO

Richard Pollack-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
am to throw boomerangs at Memorial
Middle School. For more information
please contact Cookie
(teamgel@cfl.rr.com) or
Mike Hudkins (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 materi-
als 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 great-
est cook in the Midwest prepares the
meals (317.793.9885).

INDIANA

Indianapolis Boomerang Club
Tony Brazelton
1184 Barrington Dr.
Greenwood, IN 46143
317.883.2334
brazelami@yahoo.com
[http://www.usba.org/chapters/
indyboomclub](http://www.usba.org/chapters/indyboomclub)

MINNESOTA

Minneapolis/St Paul - Boomerang
Organization Of Minnesota (BOOM)
<http://www.uboomerang.org>
current record-holder for the tourna-
ments hosted in a season!
Contact Stuart Jones
circlestixstuk@webtv.net
651.228.1393
The Twin Cities Summer Series of
Boomerang Competition 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. - the 1st Saturday in May

NEW MEXICO

Sandia Boomerang Club
Steve Sanders
10408 Woodland, NE
Albuquerque, NM 87111
505.294.8842
<http://homepage.mac.com/boomerangs>

OHIO

Canton
Gary Broadbent's boom shop and field
next door. One of the most prestigious
shops in the country, fully outfitted with
materials for making all types of
boomerangs. Featuring prolonged
boomerang-making sessions followed by
3:00 am grilled cheese sandwiches, sur-
rounded by one of the world's most
extensive collections of boomerangs.
Call Gary at 330.492.RANG to inform
of your arrival.

Delaware

Gregg's Boom shop and field down the
road. Stop in, make and throw some
booms and sign the guest book.
Nightly drink specials. Call Gregg at
704.363.4414 or e-mail at
boomerang@columbus.rr.com

TEXAS

Republic of Texas Boomerang
Society
(TexBoom Yahoo! Group)
Dave Hughes
2506 Charla Circle,
Austin, Tx. 78728
(512) 670-0508
dlhughes001@juno.com

Boomerang Association of
Dallas (B.A.D.)
David Hirsch
8925 Rosecliff Dr.
Dallas, Texas 75217
(214) 398-4567
duckhead@airmail.net

PENNSYLVANIA

Allentown
Dave Hendricks
"P/NJ Boomerang Group"
1086 E. Gordon Street
Allentown, PA 18103-2208
610.434.7305

Vermont

Vermont Boomerang Association
Paul Gustafson
South Burlington, VT
802.859.3430
paul@vermontboomerang.org
<http://www.vermontboomerang.org>

ONLINE GROUPS

Boomerang Talk

Your one-stop, non-stop online
boomerang club. Stay up to date on the
latest info and chatter from the
boomerang community. You can join at:
<http://groups.yahoo.com/group/BoomerangTalk/join>

USBA_info

This is a USBA members only group for
the online discussion of issues. The
group is closely monitored by the Board
which makes for an "open door" policy
for complaints, props or concerns. You
can join at:
[http://groups.yahoo.com/group/USBA_in
fo/join](http://groups.yahoo.com/group/USBA_info/join)

LD Boomerangs

This group is for all those interested in
Long Distance Boomerangs.
Information on making LD's, materials,
plans, techniques, throwing, and upcom-
ing LD competitions is all in here!
[http://sports.groups.yahoo.com/group/LD
Boomerangs/](http://sports.groups.yahoo.com/group/LDBoomerangs/)

2007 Long Distance Tournament News

2007 is shaping up even better for LD. On the weekend of June 8-10, the first LD in BigD tournament is being planned. This is still in the planning stages but we hope this will be a warm-up and precursor to the Nationals. August 16-19, Don Monroe hosts the USBA Nationals in Eau Claire, Wis., with the LD event planned as the first event on Thursday. And then in October, on either the first or second weekend (still TBA) the fourth annual Shoot-Out will occur, Stu and I again playing hosts.

So mark your calendars and sharpen your booms, we'll see ya soon!

David Hirsch or Stuart Jones can be contacted for more information: duckhead@airmail.net (David) circlestixstuk@webtv.net (Stu)



Don Monroe at '06 US Nationals

Boomerang News

Current events and tournament news from around the U.S.



2007



US BOOMERANG NATIONAL CHAMPIONSHIPS & EXPO

**Mark Your Calendar For AUGUST 16th - 19th
Eau Claire Soccer Park
Eau Claire, Wisconsin**

Here's a tentative schedule of events. Updates as I get them.

Thursday 8/16 - Long Distance

Friday 8/17 - General Competition

Saturday 8/18 - General Competition

Sunday 8/19 - Fun Stuff for everyone Glorp, Team Events, Mini Maxi, and lessons for new throwers.

We're working towards making this a "spectator friendly" tourney. Making this an enjoyable viewing experience is key to coming out of this with new advocates for the sport. There will be Demo's and lessons for new throwers Friday, Saturday & Sunday. We will have boomerangs for sale from around the world as well.

If you're new to boomerangs, check out the USBA website (there's a link further down the main page), in the Resources section go to Competition Rules for a comprehensive guide to the sport.

As for the tournament itself, we anticipate having some volunteer help for line judges, range stewards and scoring. This will take some of the burden off the competitors and make it more enjoyable for the 'rangslingers, as well as expediting the progression of the throwing events.

A block of rooms has been reserved at the Quality Inn. Be sure to let them know you're there for the Boomerang Tournament. Call for reservations or go online:

(715) 834-6611
www.choicehotels.com/ires/en-US/html/HotelInfo?hotel=WI407

Link to tournament web-site:
<http://users.isp.com/azrang/>



International News

What's Happening Around The World and Information about the IFBA

IFBA News:

The IFBA web-site is up and running. It looks great and is a terrific resource for the international boomerang community.

www.ifba-online.com/home/index.php

IFBA General Meeting in Asahikawa saw the election of some new members of the IFBA Directive Committee.

President

Maurizio Saba was re-elected

Vice President

Günter Möller was re-elected

Auditor

Suzanne Ragan Lentz was re-elected

Treasurer

Andrea Sgattoni was elected

Directive Committee members at large include:

Manuel Schütz
Noboyuki Iizuka
Stephane Marguerite
Steve Kavanaugh

'07 European Boomerang Championship

The EBC will be August 3rd -6th, close to Liverpool, in Pengwern, North Wales. The website is <http://www.euro2007.boomerangs.org.uk/>

Rumors abound that the Swiss Boomerang Federation is making a strong bid to host the 2009 Euro Cup.

2008 World Boomerang Championships

The Washington Boomerang Club was given final approval to host the WBC in Seattle August 17-27, 2008.

Australia and Italy may be submitting bids to host the WBC in 2010.

Other News:

There is still currently no official bids to host the 2007 Pan American Championships, with suggestions of Argentina, Colombia, Mexico or Venezuela being explored. Brazil was a great tournament in 2005, and we hope to find a Central or South American host soon.

Endurance WR:

Manuel Schütz set a new world record in the Endurance event by posting an 81! This means he had to average 18.50 seconds in Fast-Catch sixteen times in a row to make 81 catches in 300 seconds (five minutes)! To break that down even further that's 3.70 seconds per throw with the transition included!



Lars Overzee doing GLORP at US Nationals



Harald Steck posted an 80 in Endurance with this homemade boomerang. This is the highest score in the Endurance event on US soil. This boom is constructed of Poly-Aramid.)

The History Files

Featuring a Historical Boomerang Article Originally Published by the Smithsonian Institute (June 1984 v15 p118)

Boom in 'Rangs Launches Old Toy into New Orbit

Submitted by:

Kris Kemp

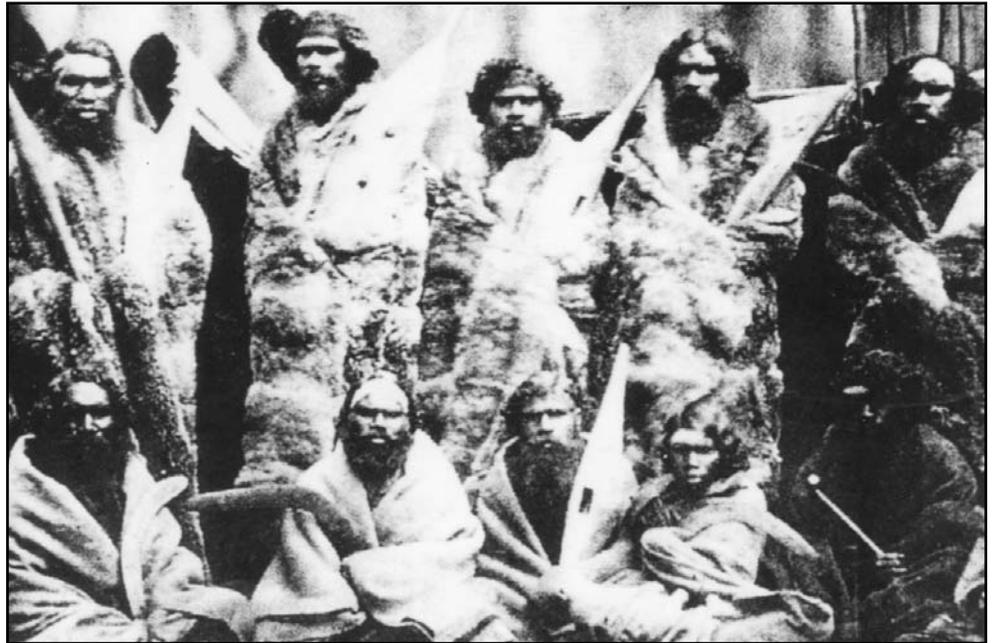
Original article written by:

Hall, Stephen S.

It's hard not to admire a piece of wood that can find its own way home. That, of course, is what a boomerang does when it is launched in the proper way. In due course, after a spectacular flight of some considerable distance, it returns to the hand that released it. Exactly what is accomplished by the exercise is unclear, but this much is certain: throwing a boomerang is fun.

Boomerangs are, without a doubt, the most utterly useless, intellectually satisfying objects ever devised by Stone Age minds for 20th-century appreciation. From the point of view of aerodynamics, kinetic poetry or pure recreation, they are marvelous flying machines.

Many people associate the boomerang with Australia's Aborigines, and rightly so. In modern times, however, boomeranging's popularity has been pretty much limited Down Under to certain roving bands of fanatics like the Mudgeeraba Creek Emu Riding and Boomerang Throwing Association. Several years ago, in fact, a dozen American boomerangers actually beat the Australians on their own turf in three straight challenge matches. In the nationalistic media laments that ensued "It should never have been allowed to happen," grumbled the Sydney Daily Telegraph, the sport received the



Ceremonial garments adorn this Aboriginal tribe along with some returning boomerangs

kind of attention it had not seen since the day in 1954 when an Aboriginal named Joe Timbery, in a command performance for Queen Elizabeth II at Wagga Wagga in New South Wales, fired ten boomerangs into the air at once. Now the Aussies are getting their shot at revenge. A six-man team chosen by the Boomerang Association of Australia will be making a challenge-cup tour of the United States early this month with matches in Washington, D.C.; Bethlehem, Pennsylvania; and Delaware, Ohio.

Presumably the challengers have trained hard, but they're in for a tough fight because Americans are quite serious about boomeranging these days. In fact, it's probably safe to say that this wacky pastime could be well on its way to becoming the nation's latest fair-weather fad.

The United States Boomerang Association, headquartered in Richmond, Virginia, claims only 275 members, but a Wisconsin mail-order house, Lands' End, has sold more than 25,000 boomerangs since it began advertising them in 1982; and now Wham-O, the California company that brought you the Frisbee, is bringing you the Wham-O-Rang. "Boomeranging is the fat man's sport," says Alison Fujino-Miller of Seattle, president of the USBA. "The better you get, the less you have to move."

No one can say for sure why the boomerang was invented, but the general assumption is that it was originally used as weapon. The returning boomerang as we know it is the ballistic sibling of a non-returning device known as the "throw stick." Archaeologists unearthed (see Smithsonian page 28)

World Cup 2006

Germany takes the Cup home yet again; as the USA finishes a strong 2nd place.

A Comprehensive look into the WBC; and the reasons why the USA is looking up at the German team.

By Billy Brazelton

Once again, the Germans proved that they are the best in the world at the World Boomerang Cup in Japan this summer, and the Americans turned in a disappointing finish by making a series of mistakes. Although that story sounds very similar to Christchurch in 1996, St. Louis in 1998, Melbourne in 2000, and Charleville-Mezieres in 2004, many Americans were actually in good spirits after the tournament was over, believing there was reason to be hopeful of a bright future for the USA Boomerang Team.

France 2004: the prelude

Before recounting the details of the 2006 tournament, let me explain the recent historical context. The US finished a very disappointing 4th place at the 2004 WBC in Charleville-Mezieres, France, the lowest place finish ever by an American team. Many people who did not go to France blamed this humiliating defeat on the fact that half the team was composed of relatively inexperienced, young guys including myself, Matt Golenor, and Dan Bower. The implication was that the young guys only made the team because many of the best American competitors (notably those from Ohio and the Northeast) did not attend the Team Trials in Seattle that year. Indeed, Matt Golenor was only added to the team after Adam Ruhf dropped out for personal reasons, and I barely squeaked into the 6th spot.



Fujiin's Posse (left to right), Casey Larrance, Dan Johnson (coach/waterboy), Steve Kavanaugh, Gregg Snouffer, John Flynn (captain), Dan Bower, and Matt Golenor

Those who were in France, however, knew that the three young guys on that team competed in almost every event, and although both Dan Bower and I inexcusably dropped huge Supercatch MTAs, we did not make many rookie mistakes. The major reason for the 4th place finish was that Steve Kavanaugh badly injured his shoulder on the first day, effectively taking him out for the

rest of the tournament. After the first day, we were still in a close 2nd behind the Germans, but when the Germans pulled ahead on the 2nd day, and winning 1st was no longer a possibility, the team lost focus and gave up points to the French and Swiss that we shouldn't have.



Team Yamaotoko (left to right), John "Moleman" Anthony, Rich Bower, Billy Brazelton, Wilson Lawrence, Will Gix (captain), Betsylew Miale-Gix

Afterwards, I travelled around France and Belgium with Dan and Rich Bower, and we spent many hours on trains discussing what needed to be done to match the German machine. We felt that the German boomerang technology was far more advanced than our own and even if we had performed flawlessly with a healthy Steve Kavanaugh, we would still not have been able to keep up with the Germans. We needed better boomerangs. We identified three areas that needed to be addressed: (1) stable, 3-winged high-wind MTAs that routinely stayed up for more than 30 seconds, (2) safe 50m Aussie Round rangs that could get bullseyes in any wind condition, and (3) fast but safe Fast Catch rangs that work in any wind condition. The Germans had all three of these things, and although we thought we had them, the 2004 WBC proved that we weren't anywhere close to the Germans.

During the following year, the Bower twins made an incredible number of 3-winged MTAs, new Fast Catch designs, and super accurate 50m Aussie Round rangs, financed by a generous donation by Michael Gel Girvin. Mark Legg also generated a huge number of boomerangs with money from Gel, and Matt Golenor relentlessly tried to copy the Fridolin Frost Fast Catch. At the Team Trials in 2005, everyone met to share their designs and test them out in competition conditions.

Team Selection

The team selection process used for the 2006 WBC was different than any previous system, so readers of MHR may be interested to learn about it. The previous three WBC teams were chosen after a three-day training camp where the coaches appointed by the USBA used subjective (2000) or objective (2002 and 2004) scoring criteria to pick the 1st, 2nd and 3rd teams. In all three cases, individuals were competing against each other for the coveted 6 spots on the 1st team.

In 2006, a selection committee appointed by the USBA recommended two teams before the team trials



German National Team, B-Motions

based on the results of a few individual tournaments, and each competitor could accept or decline the invitation to join the team. The committee decided to include more veterans on their recommended teams, including John Flynn, Gregg Snouffer, Chet Snouffer, and John "Moleman" Anthony, all of whom did not try out for the team in 2004. At the team trials, the two recommended teams, as well as two additional teams which formed on their own, competed against each other as teams for the right to travel to Japan as the USA Boomerang Team. Therefore, instead of running the team trials as a training camp for individuals, there was a WBC-style team competition run by Gregg Snouffer, the chair of the selection committee. The 2-day team tournament was a resounding success, with all participants enthusiastic about this method of choosing a team, although many would suggest that the concept and operation of the selection committee needs to be refined. In the end, the two teams selected by the selection committee (after a few substitutions for people who dropped out) tied for 1st place and Fujiin's Posse and Yamaotoko were crowned as the two squads representing the USA Boomerang Team in Japan.

Japan 2006

We were very eager to get to Japan and see if our technology had caught up to the Germans. Most of us had completely overhauled our competition kits from France. "Pretty much the only boomerangs from France that I still used in Japan were my Trick Catches and composite MTAs. I replaced every single one of my Fast Catch rangs," said Dan Bower. Everyone was very optimistic that the combination of youthful athleticism with better technology on a foundation of veteran leadership on both squads would make for a very solid team.

On the first day, however, both American squads looked rusty. In Endurance Relay, there were some drops and one instance where confusion among the judges resulted in Casey Larrance needing to return to the bullseye again before tagging the next person, costing the team at least 10 - 15 seconds of precious time. Fujiin's Posse finished in 4th place behind Germany, Switzerland, and France. The Americans bounced back in Aussie Round though, as the Fujiins completely dominated the event, beating the Germans by 65 points. Unfortunately, Germany still got 2nd, with Yamaotoko in 3rd.

(continued on next page)

The Germans would go on to win the other three events on the first day, while both American squads struggled. There were some drops in Supercatch, and the Fujiins finished at the bottom of a cluster of 5 teams all with approximately the same score in team MTA. At the end of day 1, Fujiin's Posse was still in 2nd place despite all of the mistakes but were a whopping 13 points behind Germany, a huge lead for just the first day.

The second day saw that lead get even bigger when the unthinkable happened: Fujiin's Posse - with Steve Kavanaugh, Gregg Snouffer, Dan Bower, and Matt Golenor - finished 7th place in Trick Catch. Nobody could explain what had happened; they just didn't make the catches. The rest of the day wasn't much better: 5th in Accuracy, 4th in Aussie Round, and 6th in Super Catch. The only bright point was eking out 2nd place in 30M Relay. After two days, Fujiin's Posse was in 3rd place, one point behind France and 1.5 points ahead of Switzerland. Germany was more than 25 points ahead. Yamaotoko, who repeatedly had opportunities to move up but never took advantage of them, remained in 6th place.

A major rainstorm came through on the evening prior to the third day of competition, and there was standing water on the field in the morning. The head judges would only allow Accuracy and singles Trick Catch (not Doubling) to be contested due to the standing water. Before the competition started, however, the Japanese volunteer staff brought giant sponges and buckets to the field and began to mop up the standing water! Many competitors joined them - mostly Americans, interestingly - and after 30-45 minutes of work, all of the standing water on the field had been soaked up and poured down the storm drains! It was really an amazing feat. Because of the improved field conditions, the judges allowed Doubling to be included in Trick Catch and decided to add MTA to the list of scheduled events for the day. The remaining three events were completed on a fourth day.



Although this wasn't the best moment in the tournament both Dan and Billy represented the USA with the honor and dedication of the Samurai warrior.

In retrospect, it seems as though the Americans helping the staff sponge up the standing water was the karmic turning point of the tournament. After the water was soaked up, Fujiin's Posse would not finish lower than 2nd place. They easily won Accuracy, and the only team that even came close to them in MTA was the other American squad, Yamaotoko. They finished 2nd place in Super Catch and 30M Relay, and the only reason they did not win Trick Catch is because Manuel Schütz of Switzerland completed three full rounds before finally finishing with 386 points, barely missing his own World Record, and enough to win the team event all by himself.

The highlight of the whole tournament for the Americans, though, might have been in Endurance Relay on the final day. The Germans had already completed their usual mistake-free round of 53 catches, a score that is usually enough to win the event. So Fujiin's Posse knew the score to beat, and they were still 9 catches behind after the four 1 minute rounds of the 5 minute event, even though all four throwers did very well. When Dan Bower was sent out to finish out the remaining time not used up by tagging off (which was about 25 or 30 seconds) Matt Golenor yelled out, "We gotta get these guys go for it Danny!"

Dan responded by throwing his Fast Catch extremely hard with his "fast throw", the throwing style that captain John Flynn had forbidden him to use earlier because it was too risky. Throwing with perfect accuracy and amazing speed in tricky winds, he hammered out 9 catches in under 30 seconds to tie the Germans. Gunter Moeller, one of the original Young Guns, was amazed.

In the final standings Fujiin's Posse finished 12 points behind the Germans, not exactly making it a close finish but still much closer than at the end of day 2. They were an impressive 17.5 points ahead of 3rd place Switzerland. Yamaotoko continued to combine solid scores with minor but important mistakes to finish just half a point behind Japan in 6th place.

And so the US team turned in another disappointing performance, but there were reasons to at least be excited about the potential for what could have been. If not for that horrible 2nd day that defied explanation, who knows what could have happened.... but we all know how useful "shoulda, coulda, woulda" games can be.

Asked about the technology advantage that Germany held over us in 2004 compared to 2006, Richard Bower replied, "The tech gap is much smaller, if not gone."

Indeed, the US squads finished 1st and 2nd in MTA on the 3rd day in very strong winds, mostly on the strength of the new 3-winged Palm MTAs that they had made since France. The German fast catch rangs are still faster and more reliable, but the American designs are getting much better, evidenced by Dan Bower's amazing Endurance Relay round.

The Individual tournament also provided some glimpses into what the future might hold for the US team. Matt Golenor edged out 3-time world champion Manuel Schütz for 2nd place overall behind new world champion Fridolin Frost (who joins Manuel and Chet Snouffer as the only 3-time world champions.) Dan Bower and Wilson Lawrence also finished in the top 10, and newcomer Dan Johnson finished 16th, just behind Betsylew Miale-Gix and Will Gix. Richard Bower and Steve Kavanaugh were also in the top 20, for a total of 8 Americans in the top 20. Germany had only 6 in the top 20, but 5 of those were in the top 10.

Seattle 2008

The US team started preparing for the next World Cup before the tournament in Japan had even finished. It has long been recognized that the Germans hold a big advantage in that they all have similar throwing styles and live close enough to each other that they can hold frequent team practices. We need to eliminate this advantage and start practicing as teams now - not just a few weeks or months before the tournament as usual. Therefore, there were many discussions regarding how we can hold team practices on a regular basis without going bankrupt on airfare. If you are interesting in helping the USA Boomerang Team with fundraising in order to meet expenses associated with team practices, please contact me at bbrazelton@gmail.com.

In 2008, the tournament will be in Seattle on the same field that the Seattle crew practices on every week. Will the US squads be organized into one young guns-type squad and one veteran squad?



Good Karma flowed to team USA as they helped sop-up a very wet field.

Will they be able to dethrone the German dynasty, or will they suffer from the curse of the host? (Remember that the only time the Germans have lost in the past decade is when they hosted the 2002 tournament in Kiel.) Will the Germans get bored and stop practicing? Will the French, Swiss, or Japanese surprise everyone and take the cup for the first time? In any case, it is sure to be another exciting tournament. See you in Seattle!

11 Oliver Thienhaus, Ger	117
12 Nobuyuki Iizuka, Japan	119
13 Yasuhiro Togai, Japan	119.5
14 Betsylew Miale-Gix, USA	124.5
15 Will Gix, USA	136.5
16 Dan Johnson, USA	137
17 Fred Declercq, Swit	138
18 Richard Bower, USA	140.5
19 Christophe Dautriche, F	155
20 Steve Kavanaugh, USA	156

For more information, visit www.ifbaonline.com/smf/BoomNews.php

Final Standings

1 B Motions (Germany 1)	39
2 Fujiins (USA 1)	51
3 Swiss	68.5
4 Zidanes Angels (France 1)	73
5 Samurai (Japan 1)	85
6 Yama Otoko (USA 2)	85.5
7 Knochen (Germany 2)	96
8 Appare (Japan 2)	139.5
9 Moomba Booma (Australia)	144.5
10 Zinedines (France 2)	156.5
11 BIT (Italy)	160
12 Ninja Veterans	175
13 Rising Sun (Japan 3)	187.5
14 HooLing (Int'l Women)	219

Individual Overall

1 Fridolin Frost, Ger	28
2 Matt Golenor, USA	42
3 Manuel Schütz, Swit	42.5
4 Thomas Szartowicz, Ger	65
5 Andrea Sgattoni, Italy	76.5
6 Daniel Bower, USA	86.5
7 Alex Opri, Ger	97.5
8 Axel Heckner, Ger	109.5
9 Sascha Winkler, Ger	113.5
10 Wilson Lawrence, USA	116.5



Billy Brazelton making the catch in Aussie Round

2006 US National Championships

September 1st - 5th Conyers, Georgia

Light & Shifty Winds Defined The '06 Nationals.

By M. Mohr

Warm weather and light/shifty winds challenged the 35 throwers who came to Atlanta for the 24th US National Championships and Exposition.

Following the WBC earlier in the year the field was strong as nearly all the National team members were present. The event was held at the Georgia International Horse Park. This is a huge facility and was the location of a few Summer Olympic events when the games were in Atlanta. Laura and Jason Smucker were terrific hosts and the whole tournament went on without any problems.

Things got started on Friday with the Long-Distance tournament (which is covered in detail in the new LD section of this newsletter, page 21).

The regular events portion of the tournament got underway Saturday morning with Trick Catch. The conditions were good as the wind was light and not shifting too much at this stage of the tournament. Stevie K. was the only thrower to go over 100 with a final score of 179. Matt Golenor (91) and Daniel Bower (90) rounded out the top three.

MTA was next just as the morning dew was in heavy evaporation mode. This aided the thermal activity which continued to escalate throughout the event with some minor dumps and shifts mixed in for good measure. I was in the circle setting up for my third throw and I heard Matt tell Dan Johnson that composites were over (meaning thermal activity was too high). I had a palm and a Manu #10 in hand but in spite of Matt's warning the Manu went up. And unfortunately it kept going up until it specked out!



Ben Ruhe has a posse kicks-off the 2006 US National Championships in Conyers Georgia

Dan Johnson won the event (127.3) followed by Harald Steck (121.6) and Delaney Mohr (102.1). Overall some pretty good times given the fact that the wind shifts were happening more frequently taking a lot of boomerangs out of the circle.

Fast-Catch was next with some crazy wind shifts. I witnessed Logan having to deal with a 180 degree shift

in the middle of his first round. He had to settle for a 23.47 in his second round. It was just hit and miss. If your wind held steady you could get a good time like Harald who threw an 18.7 to win the event. Mark Legg got zapped during his first round and at the time was in among the leaders of the tournament. It was interesting



The top three finisher's Richard Bower 3rd place, Harald Steck 1st place and Daniel Bower 2nd place

to witness his strategic approach to his second round. He needed a 19 to stay in contention but with the conditions as they were he could easily take a 30 and be out of contention altogether. In the end he went for it and put up a 19.64 for second place in the event!

Endurance was even worse as nearly everyone had to deal with the shifty conditions. There were some hydraulics and dumps mixed in as well. The scores were a reflection of the conditions with Stevie winning the event with a 61 followed by Matt at 57 and Richard at 56.

Saturday evening we all got together for dinner and awards. The LD throwers were given their trophies along with the craftsmanship and day one winners from the regular events competition. But I must say the highlight of the evening was the USBA auction MC'd by Matt Golenor and Gregg Snouffer. A lot of money was raised largely due to Matt and Gregg being in rare form. I'm sure the Corona's deserved an assist but the evening was fun-filled with laughter and camaraderie. And despite futile attempts to get the bowlers too intoxicated to compete the following day, everyone had a great time.

Sunday, the second day of competition began with Harald in the lead with 15 placing points, Mark Legg was close behind with 18.5, Stevie K. and Richard Bower were at 29 with Daniel Bower at 31.

The winds were pretty much the same but a bit more shifty than earlier in the day. With Accuracy up first the field of throwers split into their groups and headed for their circles. Some solid rounds were thrown but no one managed to get into the 90's. Matt (87) came out on top and a bottle neck at second with Harald, Dan Johnson and Will Gix posting an (84). Another group piled up in third, Richard and Daniel Bower along with Peter Hansch posted (80). Not to forget Stuart Jones in the Senior division scoring an (85).

Going into the final event Harald's lead continued to grow. And unless he totally tanked in Aussie Round the real competition was now for second



Logan Broadbent making the catch in Australian Round to win the event with an 84

and third. Mark held onto second, only six points separated him from both Bower boys.

Australian Round was the last event and the wind remained as shifty as ever. Spotters had to stay alert and on the move as it wasn't uncommon for changes in release points to vary 90 degrees or more in between throws. Those that made adjustments scored well and those that didn't had to do some running. Logan and Daniel Bower cut through the cheese and both posted an (84). Logan would later win the throw-off and take top honors in Aussie Round for the tournament. Matt took third place

with (81) but had a painful drop in the bullseye that would've put him at 85 and winning AR outright. And not to add insult to injury as Matty has had a great run with consecutive National titles and an impressive second place overall at the WBC. But that drop also took him out of the medals in the overall competition putting him one point out of third place in the all-around.

And when the dust settled and the final tallies were all counted, Harald held a considerable lead and both the Bower boys had leapfrogged past Mark Legg who placed 11th in Aussie Round (see Nationals page 33)



Stuart Jones was the Senior Division winner



GoGo jumping one into the bullseye

Regional Tournament News

News and information from tournaments around the U.S.

Emmaus Turns Into the Event of the Year as the 1981 US team reunites!

By M. Mohr

Well almost all of the 1981 team got back together in cool brisk air of Emmaus Pennsylvania. Missing were Chet Snouffer, Ali Fugino, Ben Ruhe and Carl Naylor (who is no longer with us).

But even without these key players from the '81 team the reunion of the remaining throwers was tremendous. Many stories were relived from 1981 which brought the flavor of the moment to all who were present. Add-in a fantastic tournament and you have one incredible weekend in October.

If you have not ever been to Barnaby's farmhouse the experience is one not to miss. Nearly everyone makes claim to an open bed, couch or futon and that's your spot for the weekend. It's like having a boomerang sleep-over with your friends for three days! The Farm is a mix of country living, an art studio and boomerang mecca. You could pass by any nook and cranny in the house or barn and see something new each time.



Big Al Gerhards participated in Aussie Round shown here throwing one of his big hooks.

The tournament is unique in that it begins at 2pm and finishes under the lights. This year, with the field of throwers so large, we finished the last event, Juggling at 1:30 am. All of the '81 team members participated in the tournament in some fashion. It was a great experience to throw with these guys (some who have been off the radar for some time). Jerry Caplan

traveled from Southern California to attend the event and he stated that he hasn't thrown a boomerang in years, mostly due to a bad shoulder, so it was especially great to see him back in action. A sidebar to the events was that due to this tournament I discovered Jerry only lives forty-five minutes from me here in California. Jerry hosted the last U.S. Nationals held in California at UC Northridge in 1985 (hmmm, with Jerry's help and the rest of the SCORE group perhaps there's an upcoming proposal for a Nationals in Southern California in '08!?).

The tournament began around 2:30 pm after a massive team effort to mark the fields. We began with MTA in pretty heavy wind filled with gusts and tree slop. It was a tight field as part of the back fifty was in the parking lot. This all added to the flavor of the event requiring each competitor to take a very strategic approach related to which



Down times at the farm were awesome, just hangin' out and shootin' the breeze.



Each participant received a custom painted trophy with a phrase unique to each throwers name, all done by Barnaby. Doug Dufresne getting his trophy at 3:30 am.

boom they were going to put up. Everything from drag-laden carbon-fibers to trick-catch booms were thrown. It appeared that Palms were the boom of choice but even these were getting blown out. It was definitely a wild-ride for this round of MTA. The top three were Daniel Bower, Dennis "Juice" Joyce and Betsylew Miale-Gix.

Aussie Round was next and the wind began to cooperate. But as the event proceeded it went from ideal to dead-calm and ended in near dark conditions.

All of the members of the '81 team participated which made this round one to remember. They were all bringing out boomerangs that were used in the '81 competition, and it was great! The overall scores were almost irrelevant to the experience but in the end Betsylew (82) came out on top, with Mike (80) and Baranaby (77) close behind. Big Al had a strong showing in sixth place with (65).

We broke for dinner on the field with beans and rice specially prepared at the Farm. Stevie K. brought some awesome bread all the way from Seattle and we were set.

Now under the lights the rest of the tournament got underway. We did Accuracy, Endurance, Fast-Catch, Trick-Catch and ended with Juggling which counted in the all-around. When

Juggling started it was probably close to midnight and the temperature was somewhere in the 30's. I beat everyone who scored a zero with an impressive (1). And on the other end Stevie had (143) but decided to just stop so everyone could leave to go back to the Farm and warm-up. If not he'd probably still be throwing!

Some notable scores were posted in the other events as well. Will Gix set a US record at (96) in Accuracy 100 only to have Harald clip him later in the round with a (97) and I believe tying the world record! Daniel and Harald both got (70) in Endurance and four throwers posted an 18-second Fast Catch round. Richard, Harald, Stevie K, and Will were only separated by twelve hundredths of a second!

After the last event everyone headed back to the Farm for the awards presentation. Barnaby had prepared river-rock stones as trophies, each painted and given a phrase related to the person's name, very cool. We all began to feel our fingers and toes again as the chill of the last event began to wear off. It must have been close to 4am when all the awards had been handed out.

Barnaby's tournament is definitely unique and I would recommend everyone attend this tourney at least once.

Over-all Results:

1	30	Richard
2	34.5	Harald
3	36	Stevie K
4	53	Dan
5	56.5	Mole
6	59	Betsy
7	60.5	John
8	62.5	Will
9	65.5	Barnaby
10	74.5	Doug
11	84	Cookie
12	86	Wilson
13	92	Oli
14	98.5	Morri
15	107.5	Petie
16	112	Juice
17	140	Emmanuel
18	146.5	Bart
19	154	Rick
20	156.5	Mike
21	162	George
22	167.5	Brian
23	171	Peter H
24	173	Carly
25	175	Pat
26	175.5	Suzanne
27	176.5	Ray
28	193	Tim
29	196.5	Kris
30	197	Stephanie
30	197	Jerry
32	200	Tara
33	209	Al
34	210	Eric
35	211	Zoe
36	215	Larry
37	221.5	Dez
38	227.5	Louis



2006 Free Throwers Fling wedged between WBC and Nationals had a small but strong showing.

By Chet Snouffer

A veritable who's who of midwest present and past US team members, Matt Golenor, Gregg Snouffer, Mark Legg, Gary Broadbent, Logan Broadbent, Stephanie Frish, Carly Parkins, Bill Rusky, Adam and Mike Dickson and Myself.

The Dinosaur of Delaware won Trick Catch/Doubling (me) with 90 to start the day. Go-Go 2nd and Gary B 3rd. In ACC, the Dino pulled up lame with a slight hamstring pull which made for some interestingly bad tosses after that, but Gary had gone down on an old meniscus tear in TC yet finished with an incredible hackey and foot combo in 14 mph and Carly was on a bad knee from the start, limp/hopping all over the place, so there was no room for wimps. Gary won Accuracy with 62, Mike second with 59 and Carly 3rd with 58. In Aussie, CRAZY wind shifts, ups and downs, dumps and hydraulics had throwers going from 6-4-10's to sometimes a 0 on the next throw. When the dust settled, Logan Broadbent drilled right through the fluffy winds and got 76 for the win.

MTA...whoo dog! In warm-up there were some killer throws riding thermals across the field, over the parking lot, then REVERSING direction and heading BACK to where they came from. When the MTA event started, as usual, the good ones floated out, the best in-bounds was Logan's 36, and most were mid-20's! Elevator down! There were some spectacular crashes where booms went up, stabilized and then just fell out of the sky like they had been hit by an invisible bird. The finishing order, Gary 3rd behind Logan and myself.

Fast Catch and Endurance always close the Free Throwers Fling. I threw down an easy 21 in the first round in the dicey stuff while Matty had a 23 with a drop. GoGo went 18 in a beautiful second round. Already in second I had nothing to gain by not trying to beat that so I went for it and did not.

With Matt and myself alternately winning an event here and then bombing there, Mark L and Gary B were clipping along unscathed down the middle, with Gary picking up 1st in Acc and Mark just hanging around with 2nds and 3rds. It all came down to Endurance with GoGo first up (49), a nice round. So nice, in fact, only Gary could match picking up a (51) in the next to last round. I was up last and opted to go between 12 and 13, and did... for one minute. Then the wind shift came and after chasing down some strays, I switched to the boom I should have used all along, Hare-boy (as in tortoise and the Hare) and finished with a 37.

Matty won with 20 points, Gary B, bad leg and needing surgery takes second and Mark Legg who slept through TC and did not get to throw, finished 3rd, tied with Mike Dickson. I ended up 5th, Logan 6th, and Gregg Snouffer was 7th without an injury excuse. Adam Dickson 8th, Bill Rusky 9th, Carly Parkins, wounded yet still chucking, is 10th and Steph, stunningly beautiful and gracious as always, 11th.



Gary Broadbent back in 1991

2006 Seattle Fall Tourney Fate smiled upon the 15 throwers who journeyed to the pocket field at Old Edmonds Woodway HS.

By Betsylew Miale-Gix

Winds were light and variable with mostly sunny skies and mild temperatures for the latest incarnation of the Seattle Fall Tourney.

The field presented some challenges on one circle in Endurance, and trees made it exciting in Aussie to throw a boom that went more than 54 meters in one particular direction. I had the unique experience of being told by Doug Dufresne to throw from the back of the circle for my other throws after skimming the leaves with the second Aussie toss.

The usual Seattle crew were joined by two Oregonians Doug Dufresne and Dean Kelly, and two Canadians Tibor Horvath and Kelly Kuszner. This was Kelly's first tournament and he acquitted himself admirably with solid scores including a 37 in Accuracy! Also throwing in his first tournament after 3 ranging sessions was novice Alex Bishop, a local teen.

Showing his raw talent, Alex was never called short and scored a 31 in Aussie and a 26 in Accuracy 100! Karl and Will Herlan competed in the intermediate division and battled through the day with good scores such as Accuracy 67 and 56 respectively, a 33.49 in FC for Karl and a 53 in Aussie for Will Herlan. Karl prevailed overall in the combined group.

Results:

1. Steve Kavanaugh
2. Richard Bower
3. Billy Brazelton
4. Daniel Bower
5. Will Gix
6. Betsylew Miale-Gix
7. Doug Dufresne
8. Tibor Horvath
9. Clay Dawson
10. Suzanne Ragan Lentz
11. Dean Kelly

here & there

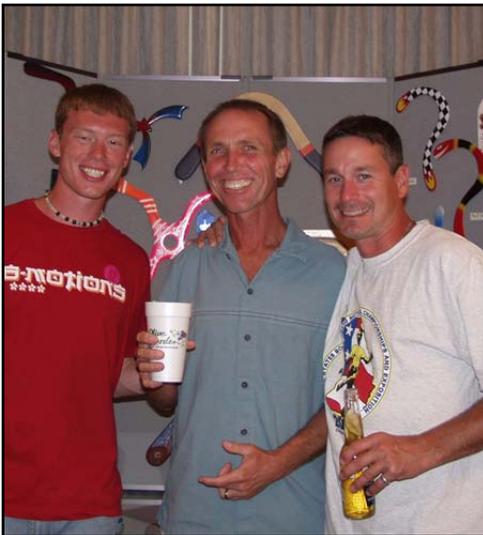
SNAPSHOTS FROM AROUND THE
BOOMERANG
COMMUNITY PAST AND PRESENT



Doug Dufrense from a tournament back in 1991.



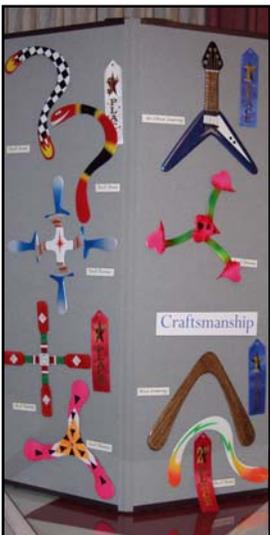
Michael Gel Girvin also at a tournament in 1991.



Dan Johnson, Randy Kirk and Gregg Snouffer



Yes, this is Stu Jones and his boomerang cart, check out that hair!



Craftsmanship board at Expo



Gregg and Matt putting on a show while hosting the Auction



Mark Legg, Doubling at Nationals

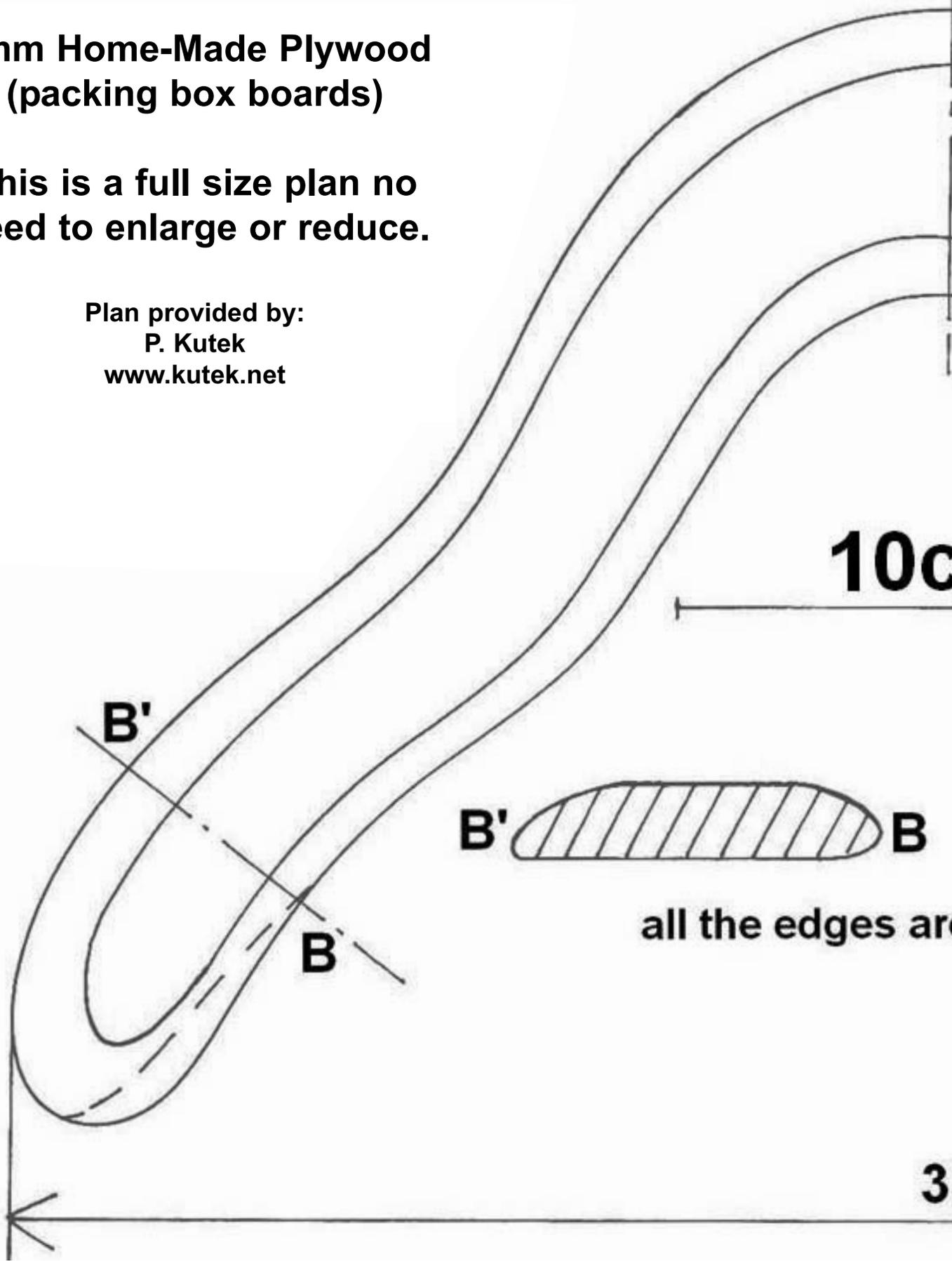
"SKIPPY"

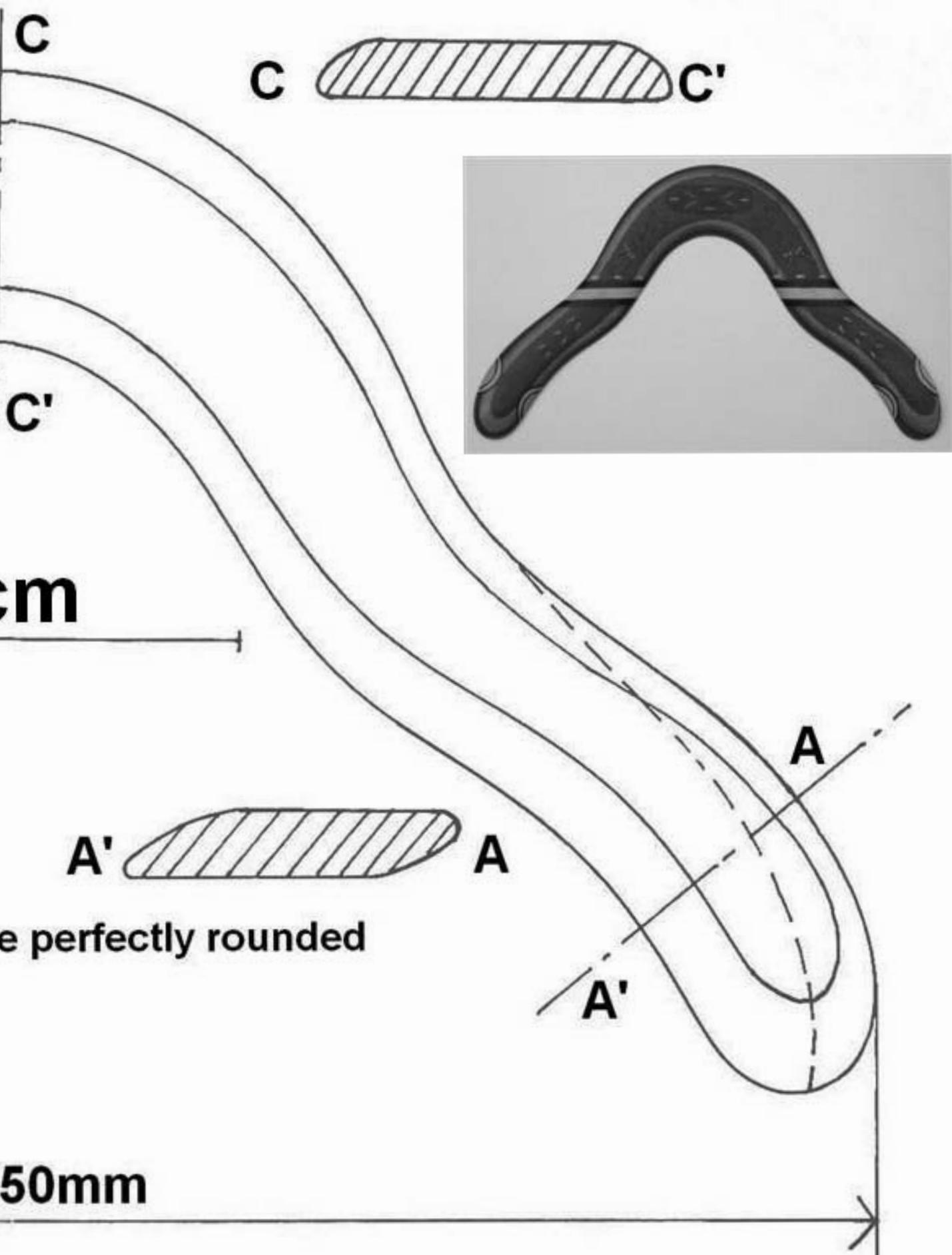
by Les & Arthur JANETZKI

8mm Home-Made Plywood
(packing box boards)

This is a full size plan no
need to enlarge or reduce.

Plan provided by:
P. Kutek
www.kutek.net





“Git” It Out There !

Long-Distance Information and Tournament Results

A Comprehensive Look Into Long-Distance Boomerangs.

By David Hirsch

This is the first of what I hope will be a regular column in MHR on the topic of Long Distance Boomerangs (LD, for short); a LD boom, in general, is one that has the ability, or potential, to travel out and return at least 100 meters. LD booms have a distinctive shape. I plan to cover materials, manufacturing, resources, terminology, tuning, throwing tips, current events and anything else pertinent to LD. I'll also do my best to provide web links and ways to learn more on your own.

The event of LD has seen a resurgence in recent years. It also has changed a lot in the past three decades. From Herb Smith's big hooks to the Manuel Schütz Voyagers of today, the event of LD is evolving. Once upon a time, very few people in the world could throw a boomerang more than 100 yards out with a return. Now, a growing list enter the 100 Meter Club yearly. As of this writing, only one person has broken the 200 meter mark and that is Manuel Schütz.

Clearly, I'm biased, but if you've never seen a boomerang travel out beyond 100 meters and back, it's magical. All boomerangs have something of that magic; the fact that a stick "boomerangs" is at the core of its' fascination. Different events appeal to different people but I've always been fascinated by distance booms, beginning with my purchase of some of Herb Smith's and Al Gerhards' hooks in the '70s. We all have different levels of fascination for different events in our sport.

So to start at the beginning, think safety! LD booms are, by design, sharp. It's one of the reasons that a



Daniel Bower, 126m this throw



Jason Smucker Tournament Director during LD

catch is not required in competition. They have high degrees of energy, by virtue of their velocity. And they often take a trajectory that is not at all what was planned. A very large space is mandatory; 300 yards by 300 yards isn't a bad starting point. I realize many folks have a hard time finding a field large enough and that the above mentioned dimensions can't be found. Do your best. Don't throw when other people or animals are within range. If you can, throw with a spotter. It isn't uncommon for a boom to have a nice throw of 100 yards then catch a gust and end up several hundred yards behind you.

Be prepared to walk (or run) a lot! It isn't by accident that the motto for Tibor Horvath's web site is "be aggressive". Which conveniently brings me to my first link.

Tib is greatly responsible for the modern sport of LD in North America. His web site, www.baggressive.com, is the main site for all things LD. He has an excellent book and other materials on his site and it is also the location of the

aforementioned 100 Meter List. To be on the list, one must throw at least 100 meters in competition every other year. It is the Holy Grail for LDers. We may enjoy the competition but throwing far is what we enjoy most. Making the list, or bettering one's own distance, is what most of us strive for.

The other site that you should consider joining is the Yahoo group for LD. It's location is: <http://sports.groups.yahoo.com/group/LDBoomerangs/>



Randy Kirk, threw 98 meters in his first comp.

A little long but this is where most of the discussion related to LD goes on and you can find a wealth of info in the Messages section.

Currently, most LD booms are made with some type of plastic; one of various forms of high density, very strong composites. This is a very loose and general definition which I will delve thoroughly into in a future article. The most common form of plastic used is probably G-10, a specific form of fiberglass. This material goes by different names and is often erroneously called a phenolic by many plastics distributors; also, all G-10 is not the same and prices vary greatly.

Again, this is an article unto itself. If you want to know more now, check out the above sites or you can email me; my address will be at the end of this article. The one material we do not use is metal.

There are several popular models of LD booms but the best known is probably the Voyager, made famous by Manu because it is the model he threw 238 meters (the World Record).

The tools needed to make your own LD booms are almost the same as those needed to make traditional wood booms with a few exceptions. Carbide tipped blades for your saber saw and a good respirator while cutting or sanding. Specific tools and their uses will be another article (does it sound like I'm baiting?) but if you start now, wear a respirator! This stuff is bad to breathe.

So, I hope I've whetted your appetite. More to come! More manufacturers, more materials, more tips, more LD. You can reach me at duckhead@airmail.net or call the Boomerang Association of Dallas (B.A.D.) at (214) 398-4567. Remember, it isn't a boomerang if it doesn't come back.

Throw far!

The 2006 National LD Champion was crowned at the USBA Nationals.

By David Hirsch

On Friday, Sept. 1st, I passed the title to Daniel Bower, who won the event with a throw of 126 meters. Daniel, though happy for the throw, was just slightly bummed since it was one meter shy of his personal best.

The event consisted of three rounds. Despite bad air (near dead calm, or worse, mixed) and, perhaps more impressive because of it, six throwers managed to break the 100 meter mark. The top throws in order were: Daniel Bower, 126 meters; Dennis Joyce, 115; Tom Wythes, 114; Delaney Mohr 107; Richard Bower, 104 and Don Monroe, 100. Tom had an amazing day with 5 throws over 100, three of them in a row. That kind of consistency is rare for our event.

The Third Annual Texas LD Shoot-Out

By David Hirsch

The only all-LD tournament in the western hemisphere occurred Friday through Sunday, Oct. 6-8, in Houston, Texas. This was our third annual event and with a great venue we expect this competition to continue to grow. This year's contest was co-hosted by Stu Jones and myself and we scored two sponsors, Kendall Davis and Boomerang Freight Solutions.

One of the delights of a full weekend of LD is a warm-up day on Friday for just visiting and tossing. The whole group did dinner that night and again on Saturday at local hang-outs. The tournament has grown enough to merit the notice of Tibor Horvath, one of the stalwarts of modern LD, enough so that we managed to lure him to Texas for the weekend.

We threw four rounds on Saturday and two on Sunday. Temps were warm for October but, hey, this is Texas! We had excellent air for

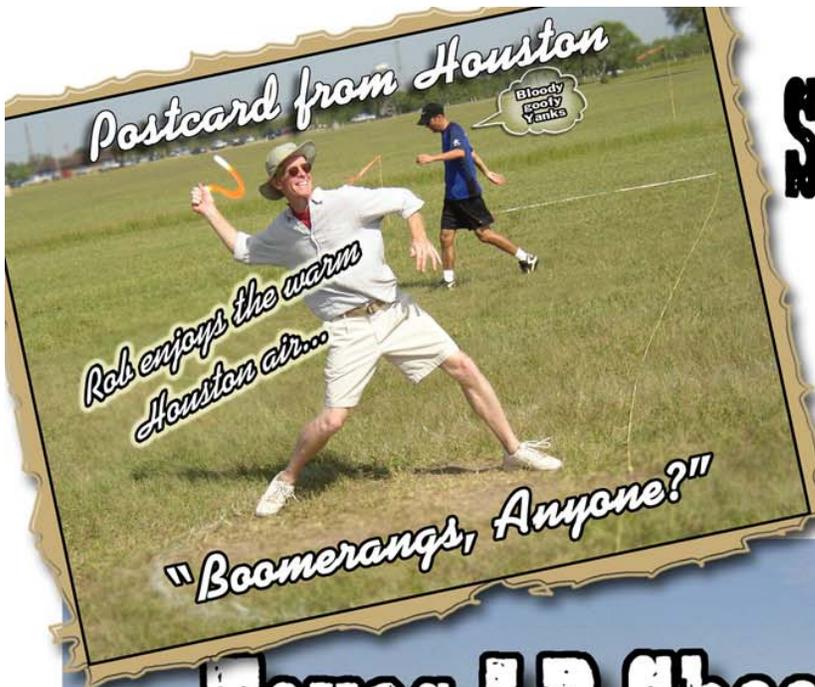
throwing, averaging approximately 5mph. We again had an excellent set of scores. Six throwers made it into the 100 Meter Club. From the top down with their best scores they were: Tom Wythes 139m, Tibor Horvath 130m, David Hirsch 121m, Rob Stewart 115m, Andy Cross 115m, and Pat Steigman 111m. Tom has had a really great year. Not only did he win, but he threw ten scoring throws over 100 meters, three of those in the 130 range!

As the throwing went, besides Tom's huge total scores and fine winning toss, two other throwers had a momentous tournament. Rob Stewart of PA., at only his second LD event, joined the 100m Club in a decisive way with four throws over 100m. And Mark Wolff, a complete newbie, managed a respectable 86m.

(see the following two pages for more coverage and photos from the Shoot-Out)



David Hirsch at US Nationals Throwing AR.



Scenes from the 2006 Shoot-Out

Rob enjoys the warm Houston temps

Texas LD Shoot-Out 2006



Dave Mark Tibor Andy Roy Joe Tom Stu Bob Pat Rob David

The motley crew

Tibor and David get some big air

Pix and art by D. Hirsch



More Shoot-Out scenes...



Andy and "The Book"



We tooted some conch and cow horns to start the tourney off right

Throwers strut their stuff



Andy Cross



Roy Dempsey



David Hirsch



Tibor Horvath



Dave Hughes



Stu Jones



Joe Rader



Bob Rudy



Pat Steigman



Rob Stewart



Mark Wolff



Tom Wythes

The winner



Tom Wythes - 139m



Where's Stu?

The Epic GLORP Showdown Goes On...

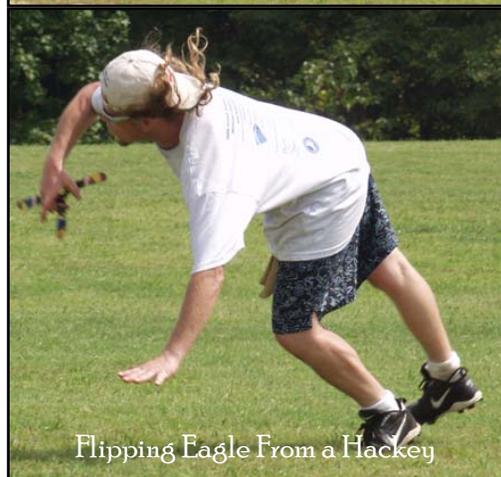
It didn't take long for Mike's bold gesture to go down in vain. As Stevie not only dispatched him but every other thrower until only Richard and Stevie remained.

Stevie had Domination and looked unbeatable as he was making every catch in the book. He and his Quad were on fire!

At this point in the game Stevie had GLO and Richard had GLOR with Domination belonging to Stevie.



One Handed Handstand Catch



Flipping Eagle From a Hackey



Fist Hackey to Behind the Legs Catch

Stevie's next catch was the Tunnelingo which is a Flamingo catch with both feet on the ground combining a Tunnel and a Flamingo catch (I might add, you have to be part contortionist just to get into this pose. It took me ten minutes to achieve this position on my living room floor!)

But this is where everything got interesting. Richard dropped the Tunnelingo which gave him a "P" and ended the game, or so we thought...

This catch requires one to be low to the ground at the point of the catch or in Richards case the drop. And low to the ground his long body remained as if someone hit the pause button on the TIVO.

Then with a rush of determination Richard rose-up and in a low subtle voice he asked Stevie if he wanted "IT"! Murmurs began to sift inward from the crowd cautiously advising Richard not to offer "IT" at such a young age. All the while never mentioning "IT" by name.

Richard asked over and over if Stevie really wanted "IT", somehow trying to determine if his opponent would be worthy should "IT" be lost. And with each offer hairs stiffened and voices were raised. And each time Stevie answered back matching Richard's tone and posture until they were face to face in a dramatic crescendo ending with Richard's "E" officially on the table!

All of this posturing was of course in the best of competitive fun and brotherhood. But at the same time it was evident that they both wanted to win the game!

Stevie still had Domination and without hesitation went into a series of catches (shown at left).

Richard matched these three catches (shown below) and Stevie finally dropped his next one giving-up Domination. Richard's catch was a "Billy" which is a Flamingo-Eagle (not shown). This catch is very difficult and Richard brought the game to even as Stevie could not pull-in the "Billy".

With the "E" on the table and the game all even you could sense the momentum start to shift.



The Final Series Crowns the Winner!



Lap Catch



Behind the Head Eagle Catch



Jumping Eagle Catch



Chicken Roost Catch

Richard knew that this was his chance. If he were to lose Domination at this time the chances of winning the game would be very slim. Stevie gave him his chance by giving up Domination but that would probably not happen again.

So Richard went into a series of catches that got progressively harder. Starting with the Lap-Catch, which took him into the crowd as the throw blew backward overhead but he still made the catch. Stevie matched with ease.

Playing to his own strengths and to what Richard knew were Stevie's weaknesses, his next catch was a "Behind the Head Eagle", a big step up in difficulty from the previous catch. But more importantly Richard knew that this catch is one Stevie sometimes struggles with. And as you can see here (on the right) Stevie pulled it in and we were all even again.

Richard then went to a "Jumping Eagle", holding Domination and forcing Stevie to match. Which Stevie did and he made it look almost nonchalant.

Sometime later I was asking Richard about his mind-set at this point in the competition. He simply stated that Stevie was making all the hard catches with ease. So he decided to go in a different direction. He would go with a relatively easy catch and see what happens.

As you can see this decision payed off as Richard made the Chicken Roost and to nearly everyone's surprise Stevie did not. This epic game of GLORP was over and Richard was crowned the 2006 US National GLORP champion.

In that later conversation I had with Richard, he stated how he was more surprised than anyone that Stevie dropped this catch.

Both Richard and Stevie reside in Seattle, Washington and are great



friends and training partners. I have no doubt that we will see them both going head to head again in the near future.

I for one was inspired to raise my own level of play after watching not just these two but all the top throwers dueling in out. I've started taking some yoga classes at my local gym and so far it's paying off. It now only takes me five minutes to get into position to make a Tunnelingo!

There's a new development brewing in the boomerang world. An eccentric edge in boomerang performance. It's an aerodynamic enhancement called turbulators.

In the recent past and today, modern boomerangers have attached and crafted wind-taming devices to their boomerangs such as flaps, tape, ribbons, string, wire, velcro, rubber bands, holes, slots, comb cuts, etcetera... to increase stability in stronger winds. We've even used them to increase lift when necessary. Turbulators ("turbs" for short) are various devices that actually channel airflow in a manner that increases overall efficiency. The results are quite different than what we get from the more commonly used flight altering modifications listed above. Turbulators agitate (or turbulate) the trapped air on the boomerang's immediate surface, which normally gets stuck there between the wing and the pressure from the air stream flow, causing an increase in drag. This agitation of the "laminar separation bubble" sort of shakes it off of the wing surface, allowing the two opposing forces to pass by each other with less conflict. Replacing the trapped air with turbulated air makes the boom more slippery in flight, decreasing aerodynamic drag and resulting in greater distance and stability against the oncoming wind. It also helps the boom to more easily maintain its pattern of flight. Some turbulators can actually be fashioned to increase drag on certain areas of the boomerang if desired, but this dynamic has been less explored. For example you can slow airflow at, say the wingtips and increase it elsewhere on the boom. This is a tricky strategy but it could be worth investigating. It's nice to know there's such a potential to play with.

Having followed this subject for a few years now, I've found that turb users have various different methods for applying them. Some are carved or burned in with a hot iron. Some are applied using flat stickers and even polyurethane tabs made for cabinetry. Even booms painted with that special decorative paint that leaves a rough or gritty textured finish have been considered to be turbulated to some degree. As for me, I started experimenting with turbs after reading a small paragraph about them in MHR. I used a homemade branding iron, burning small V shaped impressions in a specific pattern. Later, I switched to an easier faster method which imitates this pattern. Turbulation technology has been used mainly on aircraft, but has also been found on sailboats, Olympic ice skaters' clothing, tall buildings (to reduce wind load) and heat transfer equipment such as infrared and water heaters and boilers. They make stream flow more efficient.

Although turbulators have been found on aboriginal boomerang artifacts (previously presumed to be only for decoration), Georgi Dimantshev of Bulgaria, aeronautical engineer and highly acclaimed boomerang designer has been considered the originator of modern boomerang turbulators. I've interviewed four boomerang craftsmen who have done a considerable amount of experimentation with turbs. They all had something different to say about them. Well, different and yet the same. All quite inspiring.

Eric Brasseur of Belgium, an inventor and scientific journalist says "Turbulators are used on some gliders and airplanes to force the air to follow the shape of the wing. The little turbulences triggered by the turbulators seem to "hammer" [bring closer] the airflow on the wings upper side. This for example, is useful for wings with little chord flying at low speed and for flat wings flying at a high angle of attack. It is also useful to get a correct airflow around very thick boomerang wings. Turbulators can be used for two more effects on a boomerang. They can be used as aerobrakes to slow the boomerang down on purpose. This can be useful for short-range juggling boomerangs. The other effect is the turbulators force the air to travel around the boomerang wings in a predictable way. You get a constant and reliable lift on the wings that no more depends on random events like gusts of wind or slight changes in the launch.

I knew about many turbulator shapes but I was attracted to the polyurethane flat domes for several reasons. Holes or deep carves would make the boomerang fragile and need more time and work to experiment and try different sizes and places. Polyurethane flat domes

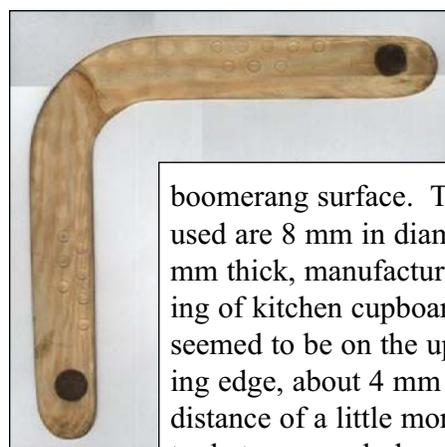


Fig. 1

could be bought in a local store for peanuts and be glued and removed at will on the

boomerang surface. The domes Eric has used are 8 mm in diameter and less than 2 mm thick, manufactured to soften the closing of kitchen cupboards. The best place seemed to be on the upper side of the leading edge, about 4 mm from the edge, with a distance of a little more than a dome diameter between each dome. Close to the middle of each wing I added a second row (*fig. 1*)

of a few domes, 15 mm from the edge and forming triangles with the first row. Eric says if you use the self-adhesive domes he uses, make sure the boomerang's surface is clean when applying them. this can be done with some sticky tape. When the removed tape appears clean, the wing surface is ready for applying turbs. He also suggests trying different sizes of domes.

Georgi Dimantshev has taken the most scientific approach to his experimentation. He tested many of his own well designed boomerangs with and without turbulators. His tests have shown a definite benefit by applying turbs in the right place. There are a number of his findings posted on boomerang websites throughout the net.

Georgi Dimantshev:

The first information on turbulators which I encountered was in magazines and books about aeromodels in the early 70s. I had just begun to build little airplanes and boomerangs too at this time. It was many years later that I found the absolutely right information on this topic. For people who like to read technical manuals, I could recommend F.W. Schmitz' "Aeromodel Aerodynamics - Wind tunnel experiments at low speeds", written by the German expert, as the best such book. Throughout my way from aeromodeler to aircraft engineer and later to boomerang-designer, I have been coming back to turbulators myriad of times. In the beginning of the 90s I started to experiment with turbulators on boomerang-arms. I went maybe through all possible ways to make an air stream turbulent. In my first article concerning this, published in the German Bumerang Welt (3/1996), Swiss Boomerang Newsletter (4/1996) and the Italian Club Bollettino (#17, 1997), I explained my experience with 0.4 mm in diameter thread turbulators on 30-50m range boomerangs, made of 4 up to 6 mm thick plywood. There, using some graphic data excerpted from Felix Hess' Thesis on Boomerangs "Aerodynamics and Motion" (1975), I proved the connection between my experimental results and the theory. Bringing the project to the next level, I used lines of pin holes in combination with special slots in the middle of the arm-chord (GD-BoomArmProfile) on thin AR boomerangs made of 3.2 mm paper-phenolic. The best "material" for this experiments turned out to be my Factor FC/Endurance triblader and the 50+m range Atlas. My first original MTA-designs Magic and Impulse were made of 1.5 mm glassfiber plates and had sharp edges that worked as turbulators (Ted Bailey plywood MTAs). In the middle of the 90s I began to manufacture Composite MTA boomerangs. The first of them, Vector, had turbulators resembling 2 parallel strips on the leading edges of the lead arm and elbow. The next Composite model, Gradus, had much more effective zig-zag turbulators of 0.15 mm thick sticker-paper.

In my article "About The MTA-Boomerang Aerodynamics" (SBN , 1&2/2000) I presented the effects of turbulators on MTA arms supporting this with a lot of results of scientific studies. Nowadays, I use zig-zag turbulators for all the Composite MTAs that I make – the 2-bladder Gradus, Sensor, Primer and Eventus and the 3-bladder Trigger and Revolver and for all my LD-hooks (Concorde and Voyager). The most effective prove to be the zig-zag strips on the Gradus and Sensor MTAs, which need such strips, because their arm-profiles have relatively big thickness and camber.

What do I use turbulators for? On MTA boomerang-arms, to make the MTAs more stable at the process of transaction between the climbing-up phase and the hovering phase (as an anti-stall device) and to make the hover longer (for less vertical speed). On AR (30, 50m) and LD (80-100-m and greater) to provide higher lift to drag ratio, which reduces the throw-power, and gives the LD a chance for surer surfing on its backward journey.

Actually, what is a turbulator? A turbulator could be any device that changes the character of the air stream around the boomerang arm - from laminar to turbulent. What brings the necessity of such transformation? The turbulent flow is much more stable. In the first place, more stall-stable. And this automatically means higher flight stability. What could bring a turbulator on the right place? It gives higher lift, more stall-resistance, higher lift-to-drag ratio (also known as glide ratio).

Using turbulators on boomerang arms is nothing revolutionary or sensational. This is just a fine aerodynamic tuning and it is a matter of simple logic. The really "big deal" is to find the right place to add the turbulator depending on the boomerang's geometry (shape and arm-profiles, fig. 2). And this "deal" needs really deep practical aerodynamics understanding and something more. It costs a lot of time for throwing experiments. Looking for the right places, I personally came to need to know the air stream distributions on the boomerang's surfaces. Not having computers and/or wind tunnels like those in NASA at hand, I found my own very simple and effective method for this. Having found some of the particularities of the stream-fields, which act on the boomerang's surface, I found some "revolutionary" new places to position turbulators. *(continued on page 31)*



throw sticks in King Tut's tomb, for example, and variations were used by ancient cultures in such disparate locales as the American Southwest, northern Europe and India. The Australian Aboriginal model, which also goes by the name of "killer stick," was carved out of hardwoods such as acacia. It was about three feet long, had a gentle banana-like curve and was relatively flat. Heaved sidearm, the killer stick could travel in a straight line for distances of up to 200 yards. It packed a big enough wallop to dispatch a kangaroo or an emu, but it didn't come back.

Wooden fragments recovered from the Wylie Swamp, southwest of Adelaide, have been dated back at least 10,000 years, and their shape and location suggest that they were returning boomerangs. "They may have been used as scare devices to drive water birds into nets," says Ben Ruhe of Washington, D.C., a former Smithsonian official who is generally recognized as the leading historian of the American boomerang movement.

The British explorer Capt. James Cook made what may be the earliest documentation of the boomerang's use. When they dropped anchor in 1770 at Botany Bay, the flora rich inlet just south of what is now Sydney, he observed the local Aboriginals throwing "wooden weapons." The first white settlers in Australia apparently heard one particular word, "bouma-rang", used to describe the devices.

Although the early returning boomerangs may indeed have been used as weapons, it is hard to square that theory with the fact that they were much smaller and lighter than killer sticks, and therefore generated only a fraction

of the impact. Given the playful nature of Australia's Aboriginals, moreover, it's possible that returning boomerangs never really amounted to much more than toys.

The question most frequently asked about boomerangs is simple: how do they work? The answers most frequently given are not simple. They include Newton's laws of motion, lift,

Aerodynamicists and physicists have sweated over slide rules to make sense of the boomerang

The word toy, however, doesn't do justice to this object's aerodynamic complexities.

"Someone once said that analyzing the flight of a boomerang is more difficult than analyzing a flight to the moon and back," says Rusty Harding, a boomerang manufacturer in Lebanon, Tennessee. Harding, it should be pointed out, is no pie-eyed poet rhapsodizing about the "magic" of boomerangs. He has worked as an aerospace project engineer on aircraft like the Boeing 747 and designed control systems for Minuteman missiles. With the boomerang, he says, "the variables affecting its flight are more complex."

gyroscopic stability, precession and magic—though not necessarily in that order.

The object itself has as many dips and curves as a fingerprint. Your basic returning boomerang measures 15 to 18 inches from tip to tip, spreads its arms at a 70 to 110 degree angle, weighs only about three and a half ounces, and is usually fashioned out of aircraft plywood. Shape is no object; enthusiasts have made successful boomerangs in the form of most letters of the alphabet, and some innovators are now trying to prove that even Chinese characters are aerodynamic. Harding handcrafts more than 5,000 boomerangs a year in his workshop, including one in the



Stu Jones back in the day kickin' it. Stu sent me all the photos for this Smithsonian piece.

shape of a tomahawk. "Remember," he warns purchasers, "while you are the thrower, you are also the target."

The same basic principle of lift that governs the flight of the airplane also operates in the flight of the boomerang. Almost any wing-shaped object with a flat bottom and a convex top generates lift when it moves through the air. You could view a jetliner's pair of wings as forming the classic shape of a boomerang, but with one crucial difference. On the airplane, both wings have their leading edges, the blunt, highly curved part of the wing, pointing forward into the airflow. On the boomerang, one of the two blades has its leading edge pointing "backward" and this introduces a new aerodynamic wrinkle.

The boomerang or 'rang, as it is more familiarly known is launched vertically. If you are a right-hander, you hold the object in a pinch grip with the flat side away from your body. You bring your arm forward with a snapping motion, not unlike throwing an overhand pitch in baseball. Sidearm deliveries are a no-no; they generate too much lift, so that the boomerang climbs steeply, stalls, then hurtles toward splinterdom. As it leaves your hand, the average boomerang is traveling 45 to 55 miles an hour, spinning end over end ten times a second. Quickly, beautifully, it begins a majestic elliptical climb into the sky.

A similar disturbing force acts on the boomerang. This is due to a fascinating fact: boomerang blades travel at two different speeds at the same time. The blade at the top of rotation represents the sum of two separate forward velocities: the forward thrust provided by your arm, and the forward slash of the spinning arm of the boomerang. The blade at the bottom, however, is actually slashing backward, toward

the thrower, so one speed subtracts from the other and the overall velocity is much less.

The discrepancy in speed-fast on top, slow on the bottom-creates the same top-heavy pressure in a spinning boomerang as you exert on your spinning bicycle wheel, and so the 'rang, too, turns left to maintain stability. The sum of all these leftward turns is a great lazy circle that sends the boomerang scooting back to your waiting hands. One of the most remarkable things about a boomerang flight is that you can actually see these tiny adjustments take place. The 'rang appears to tune itself to the onrushing air. It trembles toward aerodynamic fitness. As it completes this long turn, the boomerang also "lies down." Whereas at launch it was spinning vertically, it slowly settles into a horizontal spin, like a helicopter blade, and drops out of the sky as softly as a seedling from a maple tree.



Ben Ruhe leads the 1981 National Team

Aerodynamicists and physicists have sweated over slide rules and computers, trying to make sense out of all the composite forces acting on the boomerang. The Dutch physicist Felix Hess, a legendary theorist in boomerang circles, spent seven years writing a 555-page doctoral dissertation on the flight of the boomerang. Contemporary craftsmen don't necessarily understand all of the new knowledge about drag and lift, angular-momentum vectors and moments of inertia, but they are probably turning out the best boomerangs ever made anyway. Doug DuFresne's "Oregon Hat" is easy to catch. Eric Darnell's "Vermont Windcheater" flies well in a stiff breeze. The "Zanzibar," an experimental number engineered by Richard Ruhe, Ben's nephew, is designed to stay aloft for more than half a minute. (A "normal" flight rarely exceeds 12 seconds). From overseas come Bob Burwell's "Wanderer" (Australia), Lorin Hawes' "Silky Spinner" (Australia), Jacques Thomas' "Le Grand Rouge" (France) and Willi Urban's nylon "Comeback" (Germany). For every scientific explanation of boomerang flight, there is an anecdote about some legendary thrower of the past. One of the greatest was the late Frank Donnellan, a Sydney printer. In the 1930s, he would throw boomerangs out over theater audiences while blindfolded and, according to the stories, make flawless catches. Some say he even invented the "William Tell trick", which requires a daredevil thrower to place an apple on the head, let fly with a 'rang and "slice" the apple in half on its return. (This stunt has occasioned an increasingly common injury known as "William Tell forehead.") Donnellan also claimed to have thrown a boomerang out of one window of his car and caught it coming in the other.

(continued on next page)

(continued from page 29)

The current American boomerang boom seems to date from 1969, when Ben Ruhe-smitten with 'rang fever during a 1950s sojourn in Australia-convincing the Smithsonian to hold its first boomerang "open" on the Mall. What other sporting event could legitimately bestow the "General Douglas MacArthur 'I Shall Return' Award" for general excellence? Since then, boomeranging has grown steadily into one of those good-humored, indefatigably obsessive subcultures given to inside jokes, bad puns and outrageous feats.

Perhaps the most outrageous boomerang feat of all time belonged to the aforementioned Aussie Joe Timbery, who was the first to popularize the barefoot catch. In a celebrated 1983 stunt, Richard Ruhe got off a toss that ventured out over Niagara Falls, violated Canadian airspace and returned to the United States before being picked up on foreign radar. The current phenomenon in the field is Baby Ben, the grandson of Australian champion Bunny Read. Baby Ben won an Australian national championship for junior accuracy throwing in 1982 when he was two and a half years old. Last year, he and his family amazed American audiences when they toured the country billed as the Bunny and Baby Ben Boomerang Barnstormers.

Boomerangers seem to be getting increasingly competitive, contests are becoming commonplace all across the country. Typical categories include the long-distance throw with return, MTA (maximum time aloft), juggling (keeping one of several 'rangs in the air at all times), doubling (throwing two at the same time and then catching both of them) and accuracy. But, with apologies to the competitors,

the most satisfying event of all for most spectators is simply the flight of the boomerang itself. Each launch is a confirmation of this simple truth: boomerangs are beautiful to watch.

Last January, five hardy souls-including four members of the boomerang batty Ruhe clan gathered just before sunset on a winter day at an open field not far from Dulles International Airport in northern Virginia. They came, of course, to hurl boomerangs. Low flying airplanes crisscrossed the sky, and one couldn't help thinking that the engineers at Boeing and McDonnell Douglas had nothing on the prehistoric craftsmen who dreamed up this devilishly sophisticated aerodynamic gimcrack many millennia ago.

At one point Ben Ruhe yelled, "Let's do a suicide- choose your weapon!?"

The five throwers quickly snatched up their 'rangs, and Ruhe cried, "OK, everybody in a line ... one, two, three...." And as the sun disappeared from the blue winter sky, five boomerangs simultaneously bit into a tricky wind. The blades beat against the dark air, twitching and turning like bats until, in a confused "suicide" scramble, everybody dashed to catch his arriving boomerang before it hit the ground. Almost everybody. One of the boomerangs died halfway out, in an abrupt parabola of doom, and broke in two. "Just a piece of wood," said Ruhe.

And so it is just a piece of wood, with a twist here, of air. Still, it is wonderful invention that starts out in one spot, faithfully returns, and makes a lovely flight of fancy in between. It's hard not to admire a piece of wood that can find its own way home. -end



Larry Ruhf shown here at the "Farm" during Barnaby's '06 tournament. This boomerang was the first boomerang ever thrown in International competition. Larry made the first throw of the 1981 International competition in Australia with his "Buddha-Rang" shown here, still going strong.

Turbulators, (continued from page 27)

Richard Harrison, known by most of us as The Boomerang Man, has had much to say about turbulators in recent years. He saves and uses borders from self-adhesive postage stamps, labels from vcr blank tapes and similar material. "At first, I used a zig-zag edge (using pinking shears). Rusty Harding said a straight edge was just as effective. He was correct. The turbs are applied to the top side of the leading edge. I use small sections, .25 to .5 inch long, 3/16 to 1/4 inch wide is typical". Rich began using turbs in effort to make his MTAs work better. He'd seen a picture of one of Georgi's MTAs that had some zig-zag material applied along the leading edges. "Since I was not having much success with my Jonas carbon mtas, I figured turbs might help. THEY DID". He has turbs on all 10 of his MTA rangs (wood, paxoline and composite), a small turb on a Colorado Aspen (4mm symmetrical wing), a Wasp Polycarbonate and an aluminum triblade. "I've tested them on other rangs but turbs were not effective for the conditions used".

Turb instructions from The B-Man:

HOW TO USE TURBS:

Collect self adhesive paper materials, such as postal stamp borders. Select a boomerang that you know. Apply a turb to the top of the leading edge, on the leading wing, and as near to the tip as you can, but will not be touched by your fingers (throw). Several throws should be all you need to know if the turbs are effective. This is trial-n-error testing. Apply a turb to the trailing wing (toss). Apply a turb to the elbow (toss). Reposition a turb, remove a turb (toss). You can test a turb on the underside of your rang (toss).

If you have a rang that is working well before turbing, you probably will not have any improvement after you apply the turb. However, for windy conditions a turb might make a difference. Like adding lead tape to fine tune a rang, applying turbs is very much hands-on, trial-n-error. Don't ask for help...JUST DO IT!

Rich adds, "I am enjoying success with my MTAs, thanks to turbs, over time I have noticed that I can remove a small part of a turb and the rang continues to work well. Maybe I've gotten better with my mta throwing, or perhaps the turb was simply a sort of 'training wheel for me as I perfected my MTA throwing."

Renan Guillou of France, a wonderfully creative boomeranger, organizer and all around good guy has also done work with turbulators. I was impressed by what he told me. "I used turbs on MTA and Aussie Round booms. Maybe because I use to throw on North Brittany beaches, near St Brieuc, where there are often strong winds. Turbs are supposed to make a boom more able to endure this kind of weather".

I make turbs with a woodburning tool. It's like a soldering iron, but made for decorating wood. This works quite well on bakelite, epoxy, polypropylene and plywood. As the picture shows (fig. 3), every leading edge is engraved with turbs, I throw it here, specially on windy conditions (up to 4 -5 on beaufort scale), when no other flies.



Fig. 3

Except in particular cases, I try now to find shapes, or work on them, that prevents me from making turbs in the first place. They're good to improve an existent boomerang, or to fit one to windy weather. But for example, I don't dare make turbs to improve my LDs!

I hadn't yet tried using turbs on a plastic rang until Renan mentioned that he has. Well, now I've tried it on a small plastic triblader made of a soft plastic material about 1.5mm thick. I quickly and casually etched in a criss cross turb pattern with a sharp pocket knife when the wind picked up. Know what? It works! More range, better wind stability, nice return but with less hovering at the end of flight. This is a very light boomerang that previously had trouble standing up to more than a delicate breeze (fig. 4)

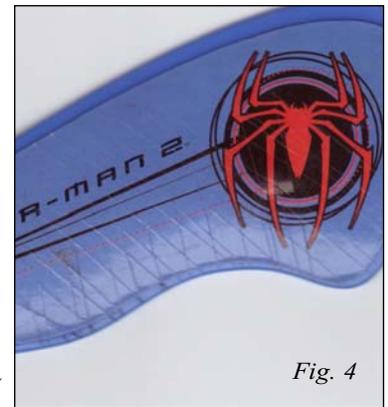


Fig. 4

The famous Bob Burwell of Australia decorates his wood rangs with engraved snake scales. I've wondered if Bob's snake engravings were intended as turbs and if he saw an improvement in his rangs' performance after applying them.

Bob Burwell's reply:

Turbulators, I have not been familiar with that word or meaning. I have heard the word in passing but have never made friends. For many years I have aimed at improving boomerang flight performance. Now that I have a better understanding of the meaning, I realize that my efforts to modify airflow in relation to boomerang wing modification have included turbulators for some time now. In 1981 when the first USBA tour of Australia happened we discussed the application of wing surface modification.

(continued on next page)

Turbulators, *(continued from previous page)*

We tried to imagine what changes may result. Two obvious common practices were in the forefront of the discussions, dimples on golf balls and the longitudinal grooves in traditional Australian Hunting style boomerangs.

I have tried to implement dimples by using a countersink bit to distribute dimples on the wing surface. I also tried longitudinal grooves. There may have been a resultant change in flight performance but I did not see it. Certainly not enough for me to see it as worth the effort. I have seen a small improvement with flight stability after adding two scored grooves near the centre of the wing chord. Scored about, 1/3 length from the wingtip towards the elbow. I have never incorporated it in manufactured boomerangs for sale. Buyers would be asking for a discount because of the scratch marks.

I have two current ways of decorating boomerangs. I burn small indentations to give the boomerang that snake like appearance. I also dot decorate along the transition point of the leading and trailing edge of the wing surface. I use small blobs of turbs based paint to leave the effect of small mounds that may also act as turbulators.



Alas I am but a simple man and have done no structured testing to be able to express a definitive change resulting from the application of those turbulators. My measure is pleasure. When I implement a change, if it results in giving me pleasure it stays as part of the manufacturing process. I figure the most successful application I have seen to cause a successful wind flow disruption that causes me pleasure is with the application of rubber bands. They are most effective as their application causes no permanent change to the boomerang.

Bob is one of the world's greatest makers and throwers and his response further supports the evidence that he has seen and done it all in the boomerang world. Anyone who's had the pleasure of throwing one of Bob's rangs and experiencing it's flight knows of his profound talent as a boomerang craftsman.

At the same time, Bob's word on rubber bands raises the question as to what distinguishes a turbulator modification from a standard boomerang modification. Though all flight altering adjustments alter airflow turbulence in some way, in most cases turbulators are characterized by qualities specific to turbulator mechanics.

Many and most devices increase drag in some way while retarding the wind's force against a flying rang. While a turb device diverts airflow in a manner less disruptive to the differing forces of projectile vs. airflow. Georgi Dimantshev's answer to this question is as follows. "All devices used for greater wind resistance like holes, flaps, rubber bands etc. are not typical turbulators with respect to the original meaning of this word. They are more accurately considered vortex generators. The effect of these vortexes could be advantageous. Dimples, grooves, engravings etc. with a depth of 0.5 to 1.0 mm are closer to classic turbulators.

My own methods (John V.), as mentioned earlier, began after reading a very small reporting about turbs in the MHR. Following the given suggestions, I applied small v-shaped cuts to the upper surface of the boom. Not just on the leading edge but in rows all about the upper surface of the wings. Staggering the v-cuts within the rows resulted in minimized drag, while lining them up straight behind one another gave an increased force of drag. I would burn in the little Vs with an electric woodburning tool, as Renan prefers to use. The specific turb formations proved to be quite effective, but it took a long time to complete a full arrangement of these little turbs.



The two types of turb engravings I've used the most on my rangs Eventually, through experimentation and a desire to incorporate the turbs into the decor of my booms, I got the idea to cut angular lines instead of individual V-cuts, creating a field of diamond shaped etchings, all connected with each other. Conversely, I've used a checkerboard pattern for increasing drag. It's much faster to cut a series of straight lines with a mini diamond cutting disc than it is to burn or carve them in individually. To me, the individual V shaped brandings seem to be considerably more effective than the other, but the diamond pattern works also. I usually put these cuts in a patch about 3 inches or so along the outer middle part of the wing, covering the width (or chord) of its upper surface. Results aren't as dramatic as turbing the entire upper wing surface but there is a more stable flight.

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Most people who see or throw my boomerangs won't recognize the art to be a performance enhancing device and I don't know why but I kind of like that. I've also found that a mini diamond cutting disc will do a fast job of cutting the lines whereas the standard mini cutting discs are not up to the task. I use a Dremel type rotary tool and I recently bought a flex shaft for it which makes a straight vertical cut easier to do.

What I've noticed about turbed boomerangs is that they fly farther and more swiftly than they did before I applied the turbs. They return more obediently but with less end hover, descending more quickly and less prone to wander. It seems that as long as they're moving along their path, they're buoyant and swift. But once they "put on the breaks" they're done. I happen to enjoy a little bit of end hover, but it doesn't stop me from using turbs. I prefer the overall behavior of turbed boomerangs.

Okay, now you know as much about boomerang turbulators as just about any of us. Don't you want to get in your shops and boom fields and give it try? Go ahead. Try it! You'll be amazed by the results.

John V.



Nationals, (continued from page 13) just taking him out of the medals and into a tie for fourth place with defending champion Matt Golenor. The day ended with the classic game of GLORP already covered in this issue.

Sunday was filled with demos and instruction. A fair amount of spectators showed up to watch some competition-style demonstrations including 30-Meter Relay.

My favorite part of the day was helping to teach a group of kids how to throw. With some generous boomerang loans from Eric Darnell and Ricardo each kid had a boomerang tuned and ready to fly. The kids were split into small groups and you could tell they were just having so much fun.

And so the weekend was over and another successful US Nationals and Exposition had been run. Again big thanks to Laura and Jason Smucker who did an outstanding jog running a great Nationals. *-end*



30 Meter Relay Demonstration



Richard found a quarter and is showing a young student while Daniel shows proper karate chop form

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Editor/Art Director:

Morri Mohr
Mohr41@yahoo.com

Publishing Director:

Morri Mohr
Mohr41@yahoo.com

Contributing Editors:

Kris Kemp
John Villagrana
David Hirsch

Copy Editor:

Kris Kemp

EMHR Director:

Kris Kemp

Mechanical Measurements:

Image area: 9.5" by 7.5"

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Width of column: 2.25"

Advertising Rates:

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March 30 for the Spring issue;
August 30 for the Summer issue;
October 30 for the Fall issue;
January 30 for the Winter issue.

USBA INFORMATION

The USBA is a non-profit volunteer organization. Our mission is to promote the sport, craft, history and science of boomerangs in the United States.

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golenom@montgomerybell.com

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webadmin@usba.org

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betwil@att.net

To view the MHR (EMHR) on-line in a PDF format just visit:
<http://www.usba.org/MHR/>
User Name: usba_member
Password: Skippy



Just Plain Bud...

Dear USBA Members,

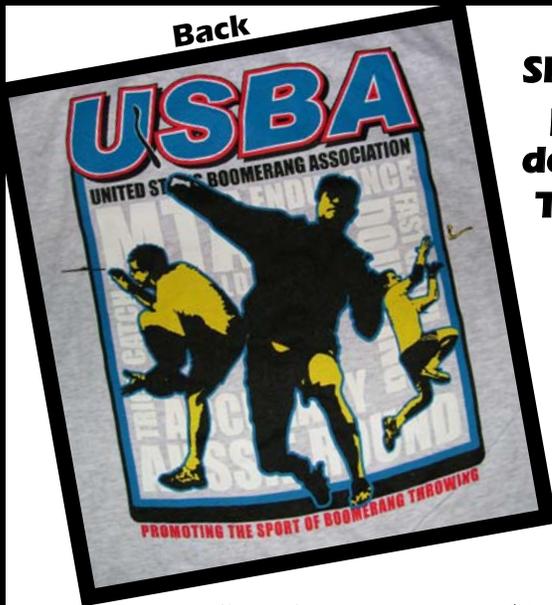
I have the sad task of notifying those of you who knew Bud Pell that a few days ago, he passed away in his sleep. If ever there was a fella who did not have time to die, it was Bud. He was active in b-rangs, and many volunteer organizations. - Rich, The B-Man.

Bud Pell he was quite a guy. I remember some phone conversations with him. Bud never bought into the internet so many don't know him. He was instrumental in getting the Senior division into the USBA competition rules. He was also our boomerang poet. His dot art was incredible. We will miss him. - Dave Hendricks

If ever there was a man to live to one hundred years it was Bud. The boomerang world just lost one of its biggest ambassadors. - Gary Broadbent



USBA T-Shirt



Show your boomerang
pride with a custom
designed 100% Cotton
Tee Shirt Available in
White or Ash

Sizes:
Medium
Large
X-Large
XX-Large



Pricing information:

Medium thru X-Large are \$15.00, XX-Large \$20.00 plus \$3.50 shipping (priority mail)
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