



SPORTBUMERANGS

Volker Behrens, Beuthiner Hof 4, 2420 Eutin 04521-71756

THROWING INSTRUCTIONS LONG DISTANCE

WELCOME TO LONG DISTANCE BOOMERANGING - one of the most fascinating ways to throw a boomerang.

The following tips are mainly for newcomers to this field of boomerang-throwing. I suggest however to read through them before you go outside to have the first throws with your CHALLENGER:

1. MAKE SURE THERE IS PLENTY OF ROOM IN FRONT, BEHIND AND AT BOTH SIDES OF YOU! A SOCCER FIELD IS BY FAR NOT BIG ENOUGH!
2. I suggest the use of a glove on your throwing hand, since distance rangs tend to have sharp leading edges.
3. If you are not used to throw heavy long distance rangs, take off the lead-weight from the underside of the boomerang and see how you can work with the unweighted stick first.

For a FIRST TESTTHROW I suggest light wind conditions. Aim about 50 degrees right of the wind, appr. 15 degrees above the horizon with a layover of appr. 50 degrees (35 degrees for the unweighted CHALLENGER), with enough, but not too much power, but plenty of spin. If everything works fine with this throw, i.e. if the boomerang goes on an elliptical return-path, you can continue trying and tuning as you like to.

If the rang DOES NOT return with this kind of throw, but continues on a straight flight,

- a) give a bit more layover and aim a bit lower OR
- b) twist lift arm a bit positive and dingle arm a bit negative (but carefully please, specially in cold weather!) OR
- c) bend both arms up a little bit.

IF the CHALLENGER has a more or less normal flightpath, here's how to continue tuning:

if it climbs too high and crashes on the way home:

- a) throw more vertical OR
- b) bend down dingle arm a little bit OR
- c) bend down lift arm a bit OR
- d) place an extra weight in the elbow section (about half the size of the main weight) OR
- e) aim a bit higher OR
- f) twist dingle arm slightly positive

If the boomerang stays low enough but doesn't quite make it all the way home:

- a) put a small weight in the elbow section OR
- b) throw a little bit higher

If the boomerang lands far behind you giving away half a mile

- a) add another little weight on the lift arm OR
- b) throw slightly more vertical OR
- c) aim a little bit higher OR
- d) twist lift arm slightly (slightly!) negative

That's basically all you need to know to adjust your Challenger for a satisfying flight-pattern.

Take your time and learn how to throw it best, learn how to make small adjustments - and take it easy on your shoulders the first time. Remember: Rome wasn't built in one day either.....

Have fun and a lot of good returns,

Collier

THROWING INSTRUCTIONS LONG DISTANCE

WELCOME TO LONG DISTANCE BOOMERANGING - one of the most fascinating ways to throw boomerangs.

The following instructions are mainly for newcomers to this field of booming, but I'd suggest everybody to read through them before going outside to have your first throws with your CHALLENGER or STRAIGHT SHOOTER:

- 1. MAKE SURE THERE IS PLENTY OF SPACE IN FRONT, BEHIND AND TO BOTH SIDES OF YOU! A SOCCER FIELD IS BY FAR NOT ENOUGH!**
- 2. I suggest the use of a glove on your throwing hand, since distance rangs tend to have sharper leading edges.**
- 3. If you are not used to throwing heavier long distance rangs, take off the taped-on weight from the underside and see how you can get used to throwing the unweighted rang first.**

For a FIRST TEST THROW I suggest light wind conditions. Aim about 50 degrees right of the wind (for right handers) , 15 degrees above horizon with a tilt angle of appr. 50 degrees (35-40 degrees for the unweighted model), enough, but not too much power and plenty of spin (the notch in the dingle arm is designed to help control and accelerate the spin rate).If everything works fine and you get an elliptical path on return, you can continue trying out and tuning as you like to.

If the rang DOES NOT return with this throw but continues going straight out instead,

- a) give a bit more tilt and aim lower OR**
- b) give lift arm a slight positive (counter-clockwise) twist and the dingle arm a slight negative (clockwise) twist - But EASY! A little goes a long way here! - OR**
- c) bend both arms upward a bit.**

If the rang has a more or less normal return, here's how you continue the fine tuning:

if it climbs too high and crashes on the way home:

- a) throw more vertically OR**
- b) bend down dingle arm slightly OR**
- c) bend down lift arm slightly OR**
- d) place a second weight in the elbow-section, about half the weight of the main weight OR**

- e) aim a bit higher OR
- f) twist dingle arm slightly positive.

If the rang stays low enough but doesn't quite make it all the way home:

- a) try giving more spin and power to your throw OR
- b) put a small weight into the elbow section OR
- c) throw a bit higher.

If the rang lands half a mile behind you

- a) add another small weight to the lift arm OR
- b) throw a bit more vertically OR
- c) twist lift arm slightly negative

These are basically all the remedies for distance problems. I suggest however that instead of tuning too much you get used to the throw real good, and then, when you get steady flights, start working with ONE PARAMETER at a time - otherwise you never know what the problem exactly was/is.

Take your time to learn and adjust your distance rang for a satisfying flight - and remember to take it easy on your shoulders first, and do a good warming up of your throwing arm everytime you go out and practice. And remember: Rome wasn't built in one day either.....

Have fun and a lot of beautiful long flights,

Colts!

Crazy Horse and Challenger G12 - what you can expect and how to tune them

- a word from the Volker Behrens

First and foremost, many thanks for purchasing one of my boomerangs and for supporting my work. I feel I have to write down this note for 2 reasons: to avoid wrong expectations about the product & to help you get the most out of it.

What can you expect from a "Crazy Horse G12" and Challenger G12"? Well, you can expect a solid long distance-rang with a lot of potential for flights beyond the magic 130 - meter mark. The material is heavy and stiffer than all other epoxies i have tried, the shapes are proven performers and so are the airfoils. When the distance given in a catalogue says 150 meters, people tend to think that this kind of distance is built into the boom, which simply isn't true. The numbers given are figures obtainable under the best combination of factors:

1. Optimum tuning and weighting (more weight = more momentum)
2. Perfect throw (more power=more momentum, more grip=more spin=better carry on the way home)
3. Good conditions

Take one of these factors out of the list and chances are you end up with a "mere" 110 meters and possible disappointment too. It doesn't only take a very good rang to get 140 + meters, but it takes a good day and a strong arm and tight grip = good spin rate (plus the coordination to hit this really small window where everything is right) to make it go all the way out and bring it back home too! I really don't mean to discourage anybody, but i don't want to raise false expectations. So, let's face it: 160 meters are not built into everybody. And even if they are, you have to bring them out too - when I was competing in distance and set my records, I used to practice about 10-15 hrs a week plus a bit of weight training too.

1 Tuning and Weighting

Here's roughly how I proceed in trying to get the most miles out of my rangs.

1. Start by making sure the rang is in neutral (flat) tune. Pick a day with a steady light wind. Start out with no weights taped on to the rang. You want to learn the basic throw and characteristics before making any changes.
2. When you get good returns and memorize the angles and want more distance, I suggest that you first use a bit of extra weight in the tip area of the lift arm (use coins or lead pieces, which are flatter). Hold the weight on with a piece of Duct Tape. Then repeat step 1.

If all is well the rang returns fine and you still need more meters. Then we'll have to look at twisting and bending - which is the hardest but most efficient part of the procedure. Before you proceed: never alter more than one parameter at a time! Basically what you can do to increase distance is:

Bend down one or both arms or give one arm a negative (clockwise) twist. Any of these steps should be taken in the tiniest possible amount, because they both go a long way and will change the flight drastically. My suggestion is first to try and bend down the dingle arm a little bit (provided you had enough air under your wings on the way home before - if this wasn't the case, go to next step) to flatten out the flight a bit and to delay to the lay-down. Alternatively twist the dingle arm slightly negative: this will change the flight into more of an elliptical shape and may result in a turn-over . If that's the case, reduce the twist a bit. Really, it's simple as that: play with all factors above and work yourself slowly towards the point when you get no more returns, then one step back or two, and voila, that's the potential of you and that rang- that easy and that hard too.

