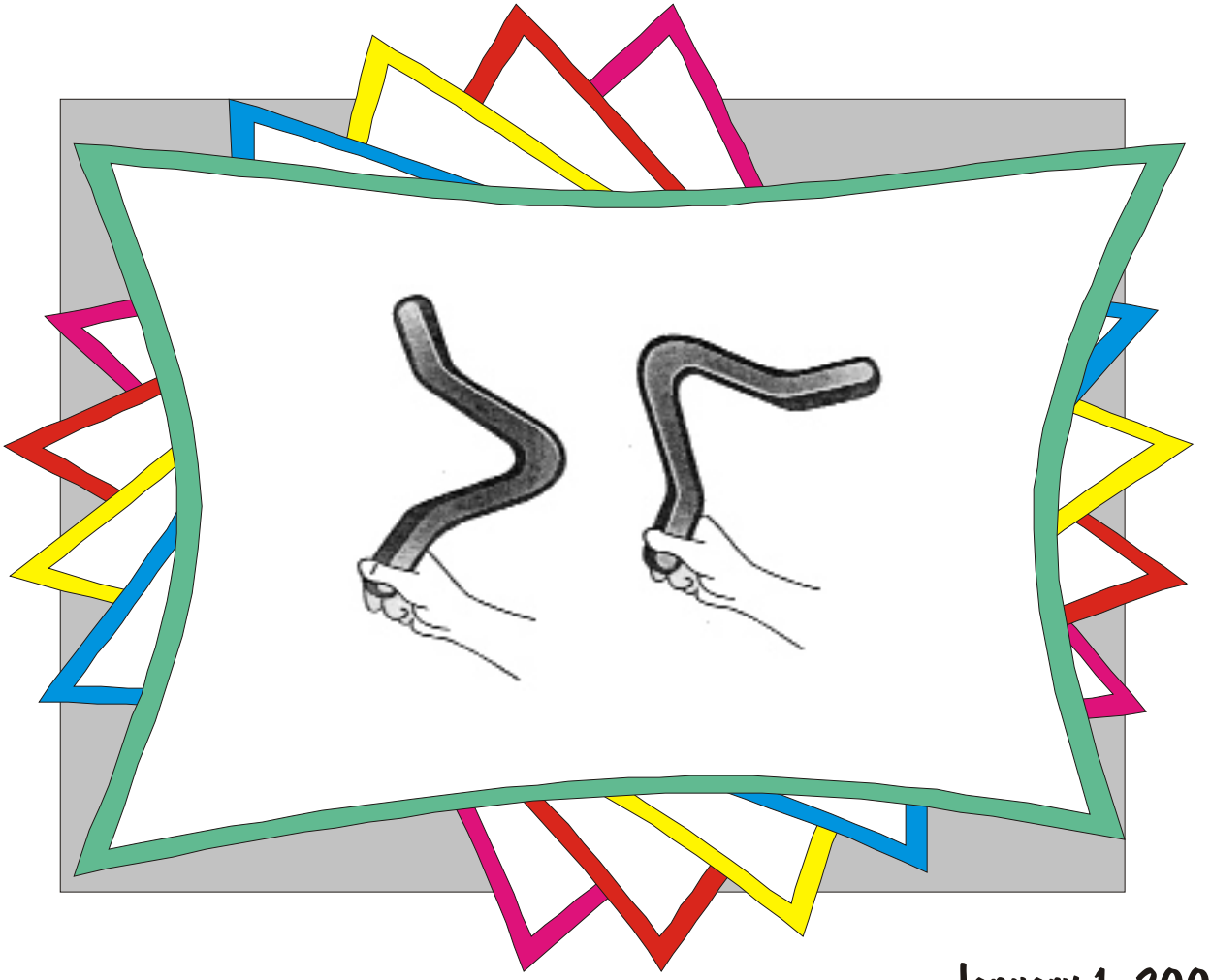
Boomerang Throwing & Safety

Boomerangs are a SPORTS ARTICLE, not a toy.
Use this guide to throw safely!



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Safety Instructions

* Adult supervision must be present to insure proper safety for children using boomerangs. Boomerangs are a sports article, NOT a toy.

* Never throw a boomerang at or near someone. Always throw in a large open space of at least the size of a football field (100 yards by 100 yards is advised - much more space is needed for some competition MTA boomerangs).

* Make sure that your throwing space is clear of all people, cars, trees, buildings, animals or other objects which could be damaged if hit by a boomerang.

* Protective eyewear should be worn at all times when throwing and/or catching boomerangs.

* Never catch a boomerang at eye level. Always wait until the boomerang is below shoulder height before attempting to catch.

* Only one boomerang should be thrown at a time. Use care at all times when throwing boomerangs.

* Never throw your boomerang laid out flat like a frisbee. Boomerangs should always be thrown in a nearly vertical position to avoid dangerous diving and swopping flights.

* If you are just learning to throw boomerangs do not throw too hard at first. For most boomerangs a half powered throw is usually enough to get the boomerang to return. As you get more experience you can add more power to your throw to get longer range flights.

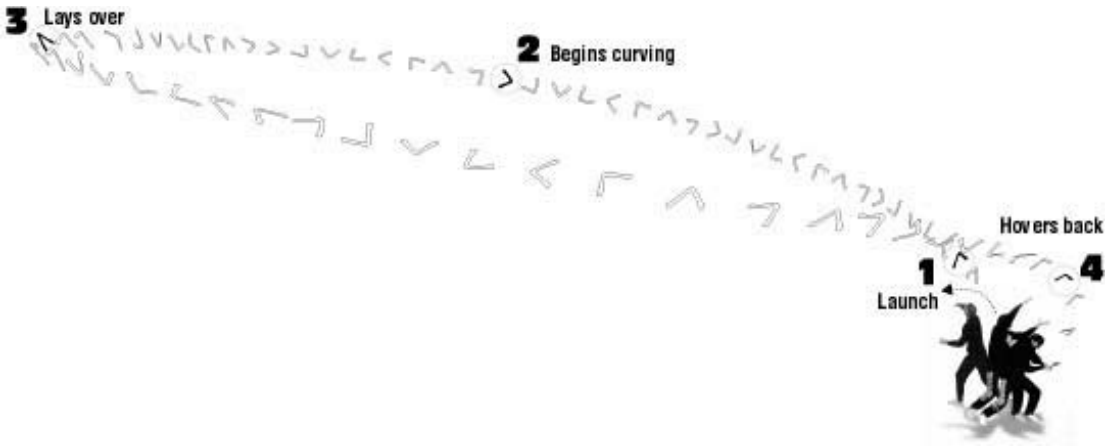
* Never throw a competition level MTA (Maximum Time Aloft) boomerang unless you are an experienced thrower. Ranges of up to 200 yards or more are possible and flight times as long as 3 minutes.

* Special expertise and care must be used to throw competition boomerangs in general as they are often faster and more difficult to catch than a recreational boomerang.

History and Origins of the Boomerang

Contrary to popular belief, the boomerang did not originate in Australia. Historical traces of boomerangs have been found throughout the world. Boomerangs are considered by many to be the earliest "heavier-than-air" flying machines invented by human beings. Australian Aboriginal boomerangs have been found as old as ten thousand years old, but older hunting sticks have been discovered throughout Europe. The famed King Tutankhamen of Egypt had an extensive collection of boomerangs over 2000 years ago.

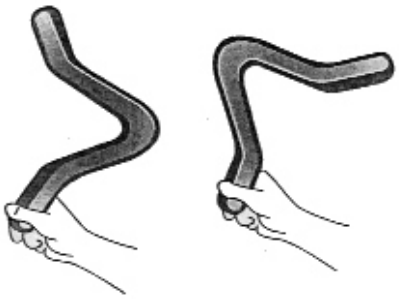
Although historians are not certain of the exact origin of the first boomerang, it is speculated that the boomerang was developed from a flattened throwing stick, used by early hunters. The returning boomerang was most likely discovered by accident by an early hunter trying to fine tune a hunting stick. The modern boomerang is most commonly associated with Australia because it has been preserved in its highest state of development by Australian Aborigines. Since the Australian Aborigines are one of the few cultures in history never to develop a bow and arrow, their heavy dependence on the boomerang for hunting has ensured its preservation.



What Makes A Boomerang Return?

Despite the simple appeareance of the boomerang, the characteristic returning flight is guided by a complex combination of physics and aerodynamics. The returning boomerang is most commonly two wings jointed at angle bewteen 80° and 120°, however, some newer boomerangs have more than two wings. The combination of spin and forward motion create an uneven lift over the wings. As the air flow passes over one wing faster than the other lift is created. The natural spin of the boomerang twists at right angles, which results in the boomerang's curving flight. Since the center of lift is forward of the center of gravity another tipping force is created, making the boomerang lie down during its flight. The combination of these spinning forces is called gyroscopic precession.

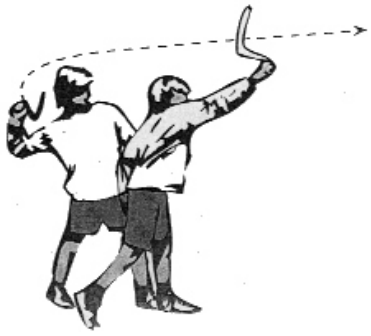
All information in this section is courtesy of Spinback Boomerangs and www.rangsboomerangs.com



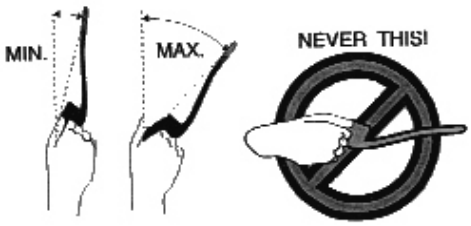
The Grip

The curved, or decorated side of the boomerang should always be held towards your body and the flat unpainted side should always be facing away from you. The easiest way to grip the boomerang is to make a closed fist and slide the boomerang between your thumb and first finger. Make sure to cock the boomerang back for maximum spin. The "elbow" of the boomerang can be facing either forward or backward as seen in the image to the left. Practice is the best way to find the grip perfect for you.

The Throw



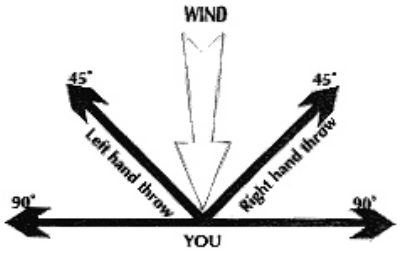
Always throw your boomerang in the traditional over arm style. Aim the boomerang at or just above the horizon. Release the boomerang at the peak height of your throw. When thrown correctly, the boomerang will fly in a circle and reach the apex of its flight at the point furthest away from you. As the boomerang returns it will begin to slow down and hover towards the ground.



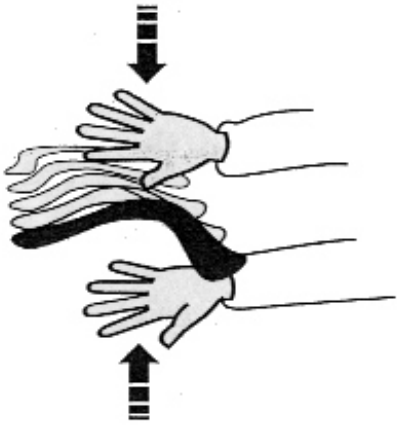
Launch Angle

The Boomerang should be nearly vertical when releasing. Increasing the tilt angle makes it fly higher and land further back. Holding the boomerang more vertically will make it fly lower to the ground and land more forward. NEVER hold the boomerang horizontally flat like a frisbee. This will cause the boomerang to fly in dangerous swooping and diving flights.

Adjusting for the Wind



Throw to the right of the wind at an angle about 45°. Left handed throwers should throw to the left of the wind at a 45° angle. Aiming at a 45° angle will utilize the breeze in your favor to help bring the boomerang back. By standing in the same spot and aiming for an object in the distance, you can adjust the throw angle to the wind.



The Catch

Catch the boomerang using both of your hands in a clapping motion as shown in the diagram to the left. Only attempt to catch the boomerang while it is slowly hovering owards you and is below shoulder height. Aim for the center section of the boomerang as you catch it, and try to avoid the faster moving wing tips. NEVER try to catch a boomerang that is diving or moving fast.