

## BROADHEAD TEST: MAASAI 200gr

By

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### BLADE DESCRIPTION

The manufacturer of the Maasai broadhead – GrizzlyStik of Alaska Bowhunting - makes the following claim:

*Our 200 grain Maasai has proven to be the most indestructible broadheads we offer. In all our testing we have yet to break one. As a matter of fact, one bowhunter achieved a **complete pass-through on a hippo skull**. Another, after putting an arrow through the lungs of an elk and wanting to get one more in him, completely penetrated the skull on a bull elk - dropping him on the spot.*

*GrizzlyStik Maasai single bevel broadheads, with their deep, razor sharp single bevels and thick ultra-tuff blades **split and blow through bone** like only a GrizzlyStik single bevel can. They're suitable for any North American big game and African plains game.*

Manufacturers often make claims about their products that are exaggerated. We would put the Maasai to the test to see if the claims are exaggerated or not. Would it be “indestructible” and would it “split and blow through bone”?

The Maasai 200 grain broadhead consists of a thick (1.75 mm / .69 inches) 440C stainless steel single blade screwed onto a CNC aircraft grade, smooth transition, low profile ferrule of .334 inch (....mm) diameter (Figure 1).



*Figure 1: The Maasai 200 grain broadhead*

Overall dimensions are 2.65 inches in length (67.3 mm) and 1.13 inches (28.7 mm) in width making it a “medium” sized broadhead. The blade has a Rockwell hardness of 58 a Tanto point and 25° single beveled convex shaped edge. The convex shape is one of the design features which lends strength to the blade and offers rigid support for the Tanto point. The combination of Tanto point and single bevel

edges make it a good bone splitting broadhead should bone be encountered during penetration. The blade is not ventilated as are the lighter 125, 150, and 175 grain versions of this broadhead. Because of the relatively small surface area of the blade planing from cross winds is not a problem. Arrows tipped with these broadheads fly true.

The average weight of the 3 broadheads sent for testing was 198 grains – 2 grains less than the advertised 200 grains. The broadhead passed the finger nail and paper test (Figure 2) - the blades are shaving sharp straight out of the box.



*Figure 2: The Maasai was shaving sharp right out of the box and passed both the fingernail and paper test.*

The broadheads come in a set of three in a practical and safe box.

The two stainless steel “Torque” screws firmly attach the blade to the ferrule but I assumed that, if any, the component nature of the broadhead, as opposed to a single forged broadhead/ferrule, may prove to be the weak point in the broadhead design. Our tests would prove things one way or the other.

## TESTING

The broadhead, which has a mechanical advantage of 1.5 was mounted onto 30” Grizzly Stik Momentum UFOC 250 shafts. The complete shaft had an FOC of 25% and weighed a total of 760 grains. The arrows were shot from a shooting machine using a Hoyt Spyder 70 pound bow at a distance of 20 yards and were chronographed at 212 feet per second, producing kinetic energy of 75.8 ft/lbs and a momentum of 71.5 slug ft./sec. High speed video footage was shot with a Metek Vision Research camera.

Next step was to shoot it into foam to measure penetration then into a bovine scapula, and bovine heart and in to our newly developed composite gel test medium without sharpening between tests.

## RESULTS

The broadhead penetrated 256 mm into a foam block and punched a large hole through a bovine scapula (Figure 3 and 5). The arrow deflected slightly on exit and instead of entering the foam backstop hit into the 20mm wooden shutter board used as an additional safety backstop, penetrating to a depth of 16mm. Apart from the fact that the insert had come loose from the shaft, the broadhead, even after having to be worked loose with a pair of pliers was “good to go” with only a few very small nicks in the cutting edge.



*Figure 3: The broadhead punched a large hole through the bovine scapula and embedded 16mm into 20mm shutter board.*

The same broadhead sailed through a bovine heart and created a large triangular wound channel (Figure 4 and 5).



*Figure 4: A large triangular wound channel through a bovine heart.*

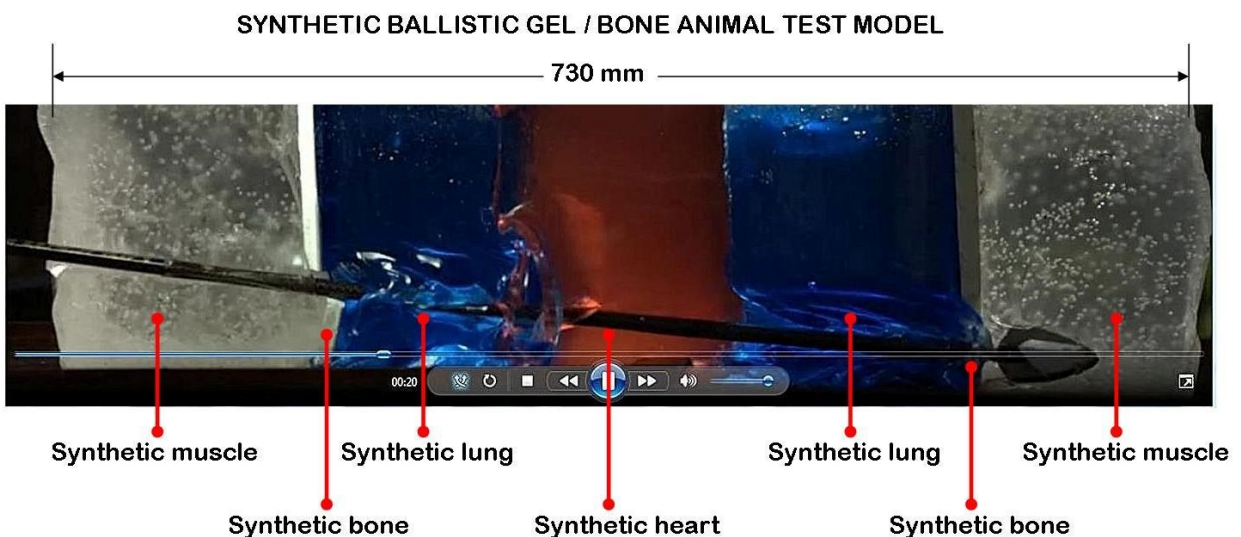




*Figure 5: High speed footage of the Maasai penetrating through a bovine scapula and heart.*

The broadhead was now repeatedly shot into our newly developed composite “animal” test model.

This consists of ballistic gel of varying density which represents muscle tissue, heart and lung tissue and a hard, tough synthetic bone material (see Figure 6). An “animal” was built up which would represent a cross section of a species about the size of a zebra / wildebeest. Cross section was .....mm. The arrow fired into this model would give a good idea of how the shaft/broadhead combination would penetrate into a real animal.



*Figure 6: Penetration into the synthetic animal model.*

The broadhead/shaft combination penetrated on average 612 mm (3 shots) into the material passing through muscle, bone (10mm thick), lung, heart, lung, bone and ending up in the muscle on the opposite side.

The same broadhead used for foam penetration, bovine scapula test (which ended up 16mm deep in shutter board), heart test and being shot 3 times into the test “animals” (including penetrating a total of 20mm thick bone) is shown in Figure 7.



*Figure 7: The same broadhead after all the tests described – with NO re-sharpening!*

## **CONCLUSION**

Although this broadhead consists of components – blade, ferrule and two mounting screws it proved to be incredibly strong and tough and even after having been subjected to the tests described and would, soon, with a bit of file work be ready to be used again for hunting. None of the components failed and whereas “indestructible” may be too strong a superlative to describe their product (NOTHING is indestructible) I agree readily that this is a broadhead that can absorb an incredible amount of punishment and still be useable. In fact it is one of the strongest and toughest that I have tested. Would the broadhead with its Tanto point and single bevel blades “split and blow through bone”? Figure 3 is self-explanatory. The broadhead also punched through the synthetic bone of the model animal 3 times. The strength of the blade I think lies in its thickness, its convex shape and Tanto shaped point. Whereas I am generally skeptical of broadheads made up of component parts, my skepticism proved to be totally unfounded with the Maasai 200 grain. It has excellent penetration and bone splitting ability. Although the manufacturer recommends this broadhead for African plains game I would not hesitate to use it on lion, leopard and even on buffalo ( see Figure 8).

An excellent broadhead.

*Figure 8: Some African animals taken with Maasai 200 grain broadheads.*

#### **ACKNOWLEDGEMENTS**

Thanks to Garrett Schlieff of Alaska Bowhunting Supplies for sample broadheads and to Magnum Archery for use of the Hoyt Spyder bow. We also acknowledge the assistance of Richardo Davies and Dr. Wallace Vosloo in recording high speed video footage.

#### **NOTE**

Should any manufacturer or retail archery shop wish for broadheads to be tested three broadheads can be posted to me. Articles will then appear in Africa's Bowhunter and the manufacturer / retail shop will be able to use the article content to market their product.