

BOW REPORT

BowTech Tribute

BowTech Archery continued to expand market share in 2005 with an increased dealer base and record sales of the Binary Cam driven patriotic series. The 2006 line promises to continue the successful surge with new looks, cam options and silencing materials.

BowTech's 2006 flagship is the Tribute, a long riser, short axle-to-axle bow with beyond parallel limbs and resulting great performance. BowTech dedicates the Tribute to the men and women of the United States military, donating a portion of each bow sale to an organization that supports families who have lost a loved one in the Armed Forces.

The Basics:

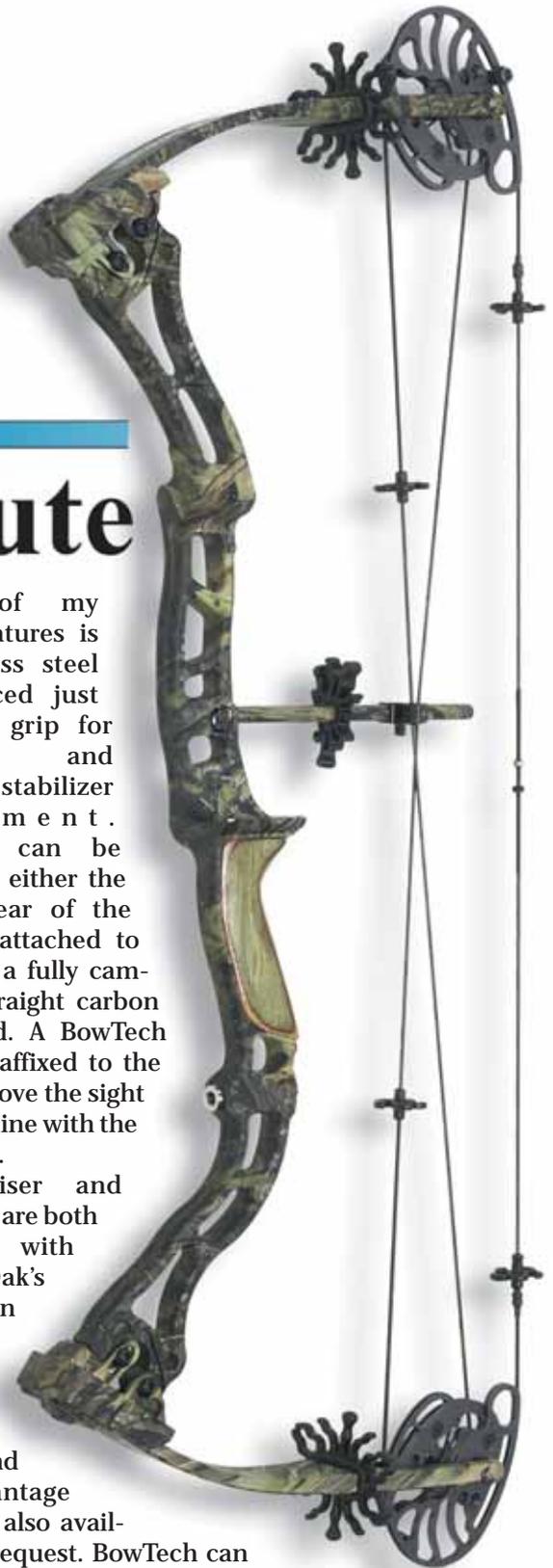
Riser: The BowTech Tribute has a riser that is first extruded from T6 aluminum and then CNC machined into its final form, which has a reflex geometry measuring 2.75 inches. The test bow riser, with limb pockets attached, spans approximately 26.5 inches at its greatest linear length. That is only 5 inches shorter than the axle-to-axle measurement. To put it another way, the end of each limb is only 2.5 inches beyond (vertically) the lowest reaching point of the limb pocket! The bow's long riser and parallel limbs give it a squared-off look.

Ten cutouts are machined over the length of the riser to keep the overall mass weight as low as possible. Two holes with hex shaped countersunk pockets located near each end of the riser are specially designed to accept two-piece quiver attachments. BowTech incorporated a few aesthetic grooves and curves for 2006 giving the Tribute a more finished and sleek appearance. A slight modification to their narrow throated, one-piece wood grip in the form of a flatter heel was made to increase the repeatability of the shooter's grip. One side of the grip has the company's namesake laser engraved into it.

One of my favorite features is the stainless steel insert placed just below the grip for consistent and durable attachment. Stabilizers can be attached to either the front or rear of the riser. Also attached to the riser is a fully camouflaged straight carbon cable guard. A BowTech emblem is affixed to the riser just above the sight window, in line with the cable guard.

The riser and cable guard are both finished with Mossy Oak's Obsession camouflage pattern. Two Realtree patterns and an Advantage pattern are also available upon request. BowTech can offer dealers that choice because the company has its own in-house film dip operation run by a subsidiary, Waterdog Technologies.

Customer Connection: Point out the new wood grip with flattened heel. The new configuration will mean improved consistency for archers who use the "stop" grip. (I call it the stop grip because it resembles the hand



Correction: The September Report stated Winner's Choice strings and cables were standard on Bow Logic models from Kodiak Outdoors. They are optional.

position of someone putting their hand up to stop traffic).

Sell the overall riser package with its stainless steel stabilizer insert, seamless finish and stylish machining features.

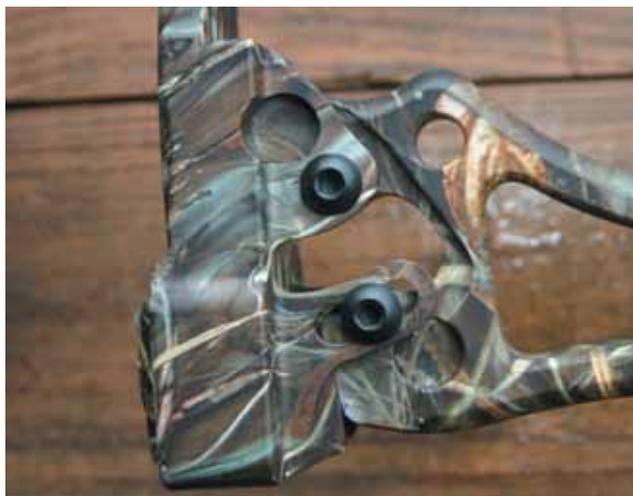
The combination of a significant reflex geometry and parallel limb design give the Tribute both speed and a generous and forgiving brace height.

Limbs/limb pockets: BowTech recognizes the importance of the interface between the riser and limbs and has designed their limb pockets accordingly. The Tribute employs CNC machined T6 aluminum pivoting limb pockets that are held to super exacting tolerances. Surface area between the limbs and limb pockets has been increased to ensure consistency and reliability. The extreme limb pocket angle also lessens the pre-load on the string and decreases the limb tip travel. A ¼ inch socket head bolt is used for draw weight adjustment. The head of that bolt is countersunk in a square bezel that is precisely positioned inside the limb pocket. Passing through the bezel, limb and pocket the bolt is threaded into a pivoting barrel nut seated in the riser. The limb pocket is not held to the riser by the bolt, rather it is held in place by the pre-load in the limbs and the two small screws that lock the flange to the side of the riser. This flange eliminates side-to-side move-



The Tribute that Editor Tim Dehn got a sneak peek at while hunting with a Whitetail University group this October came finished in the optional Advantage Max 4 camouflage. The ribbon carries the message "Pray For Our Troops." Below, limb pocket and limb move as one when you loosen twin socket head cap screws and adjust the weight bolt.

ment of the pocket and keeps vibration down. When the draw weight is adjusted the limb and limb pocket interface stays exactly the same – the limb does not move independently of the pocket. In this way the critical interface is not compromised. To adjust the draw weight simply loosen (just crack the screw open) the two side



flange screws and adjust the limb bolt.

The Tribute's short limbs measure approximately 13 inches long and 1.5 inches wide. Limbs are made of industry standard Gordon Glass Composite and are shaped by Patton Manufacturing, an Upper Michigan

firm that has done work for several of the industry's top bow companies. Limbs are machined into their basic form at Patton Manufacturing and then are hand sanded, checked, and then hand sanded again and again until the proper deflection values are obtained. Once at BowTech's facility limbs are tested extensively for durability. Many limbs are taken to the limit and beyond, to the breaking point, to make sure that the limbs that go onto a production bow are engineered to withstand forces and cycles far beyond normal use.

These tests are also performed to gather data concerning failure modes. In other words, BowTech can tell when a bow has failed from dry firing, improper use of a bow press or the use of strings or cables that are too short (excessive pre-load), etc., just by the nature of the fracture. For instance if they receive a bow with a limb that is snapped off right in front of the pocket it almost certainly means that a limb pivot was not

About The Author

Jon E. Silks has a degree in Quality Engineering and works in the area of non-destructive testing technology. His entire career has centered around the testing and evaluation of products. Now 37, he's been bowhunting since age 12. Silks started writing for magazines and websites four years ago and since then has done more than 225 product reviews. Manufacturers who appreciate his thoroughness and frankness have often asked him to review products that are still in the development stage. Silk's work has appeared on Bowhunting.net and Bowsite.com and has been published in Petersen's Bowhunting, Bowhunter, Arrow Adventure, and Whitetail Fanatic, along with ArrowTrade. Jon and Jennifer Silks have six children Silks can be reached by email at silksoutdoors@lazerlink.net



inserted before firing. If it breaks 2 inches above that point it is an indication of bow press damage. BowTech has collected a tremendous amount of data to determine the cause of failures in an effort to educate dealers and sales reps on the proper handling of their bows. Limbs are matched based on deflection values to enhance consistency and performance. Coupled with the extreme limb pocket angle, the beyond parallel limb style increases stored energy, makes energy transfer more efficient and reduces vibration.

Limbs are finished in the same camouflage manner as the riser.

Customer Connection: Gordon's fiberglass durability track record is a great selling point for customers concerned with longevity and reliability. Gordon has an outstanding reputation in the industry for producing high quality fiberglass composite limb material, which is used by many of today's top bow manufacturers.

BowTech's rigorous testing of their limb stock is another selling point focused on durability.

The interface between the limbs and limb pockets never change. Instead, the limb pockets pivot when draw weight adjustments are made. The result - a more consistent interface and in turn a more accurate bow.

All of this attention to detail in the limb/limb pocket arena has the added benefit of reducing the noise of the bow!

Eccentrics:

BowTech sent a buzz through the crowd at the 2005 ATA show in Indianapolis, Indiana with the introduction of the then new Equalizer Binary Cam System. Breaking away from the y-harness (buss cable) that is found on single, hybrid and dual cam bows, BowTech designed a system that anchors the cams to each other rather than the limb tips. In this way the cams function as a single component and when fired automatically compensate for (equalize) any imbalances in the system such as unequal limb deflections or stretched strings. A positive draw stop peg on the top cam allows for slight draw length adjustments and 65 or 80% let-off options.

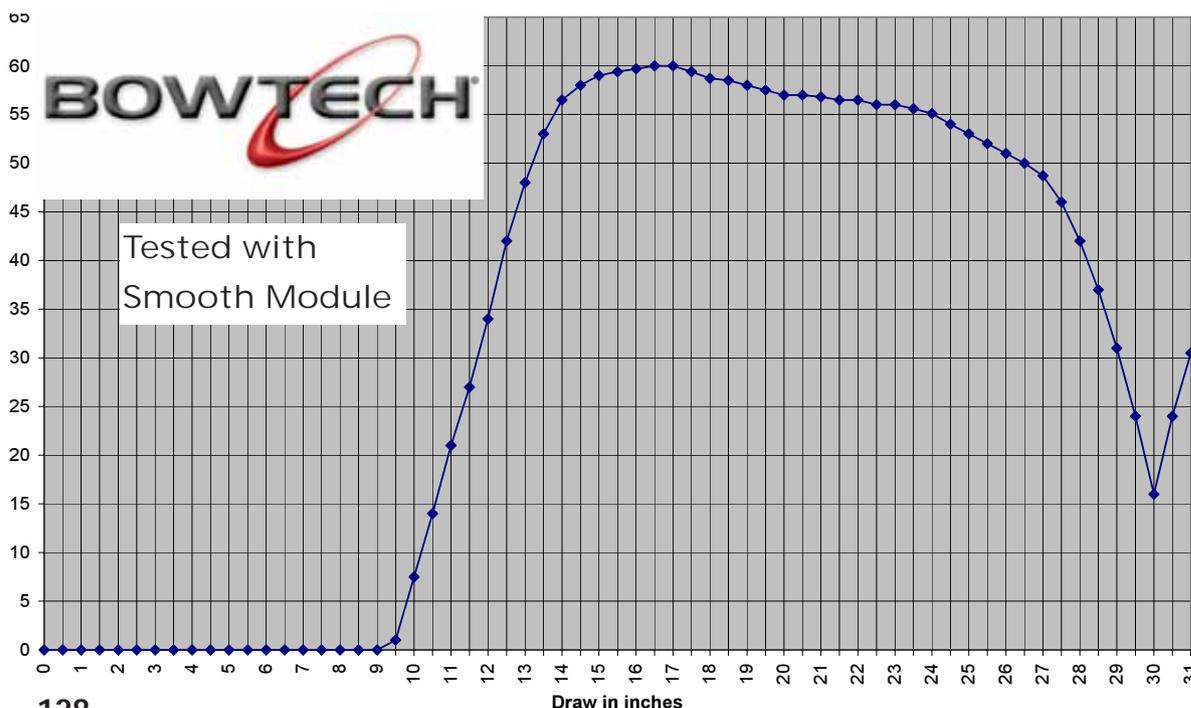
A new version of the Binary Cam System, which incorporates modules



The Tribute, like all BowTech models for 2006, uses the Binary Cam system invented by VP and Co-Founder Kevin Strother. Instead of splitting the buss cable with a yoke to anchor on the axle ends, the buss cable ends in the opposite cam.

for draw length adjustments between 26 inches and 30 inches in 1/2 inch increments was designed for the 2006 line. The Tribute's modular system makes it possible for pro shops to be more responsive to customers with fewer units in inventory. Another first for BowTech in 2006 is an optional "smooth" module for each draw length. This module softens the draw curve by gradually climbing to the peak draw weight and then steadily dropping off to holding weight. A loss of approximately 8 feet per second (fps) can be expected with the optional module. Module designations are as follows: Modules that are gray in color like

the cam are the "Fast" versions and have an EFA designation - Eccentric, Fast. Numbers from 1 to 5 in .5 increments denote the draw length. A number "1" represents a 30 inch draw, # 1.5 a 29.5 inch draw and so on down to 26 inches. Modules are also called out for the top cam, "T", or the bottom cam- "B". So, if you see a designation on a gray module that



reads EFA 3T you will know that it is a 28 inch fast mod for the top cam. If you see a designation on a black cam that reads ESM 1B, you will know that it is a 30 inch "Smooth" module for the bottom cam.

Customer Connection: In less than a year the Binary Cam System has already proven its worth. Now they have made the system multi-modular! Fast cams, smooth cams and any draw length between 26 and 30 inches. This is a big plus for you and your customer!

Speed. This is a fast bow – sell it!
Versatility in draw curves (smoothness of draw) is a welcome option.

Silencing and Shock reducing features

The Tribute features BowTech's Hush Kit, which includes limb dampeners, string and cable silencers and a cable guard silencer. Using durometer tests BowTech found the best blend of vibration dampening characteristics and durability. Basically a durometer measures the hardness of items from steel to rubber on various scales. The Hush String Silencers are best used near the speed nocks when covered with shrink tubing. The farther toward the center of the string the silencers are moved the more they will reduce vibration however they will also lose their nodes/fingers quicker. Even when the nodes/fingers are lost the core still does a tremendous job of reducing string noise. BowTech puts two E-buttons on the string that can be used as an arrow nock cushion for those that shoot off the string or as a kisser button.

This button has a defined ridge in the middle and makes a great kisser button. Locate the position on your string where you want the E-button and secure it in place by placing nocks above and below it or by tying it in – instant kisser button.

Customer Connection: The quieter the better in my book and I believe that most every bowhunter feels the same way. The Hush Kit and design features of the Tribute make it one of the quietest bows built, by any manufacturer, to date. This is a significant selling feature.

Strings/Cables:

BowTech has their own specs for strings and cables, the majority of which are made in-house. When the demand climbs past their capacity they contract the Vapor Trail Company to pick up the slack. Twenty strands of BCY 452X material is used for both cables and strings.

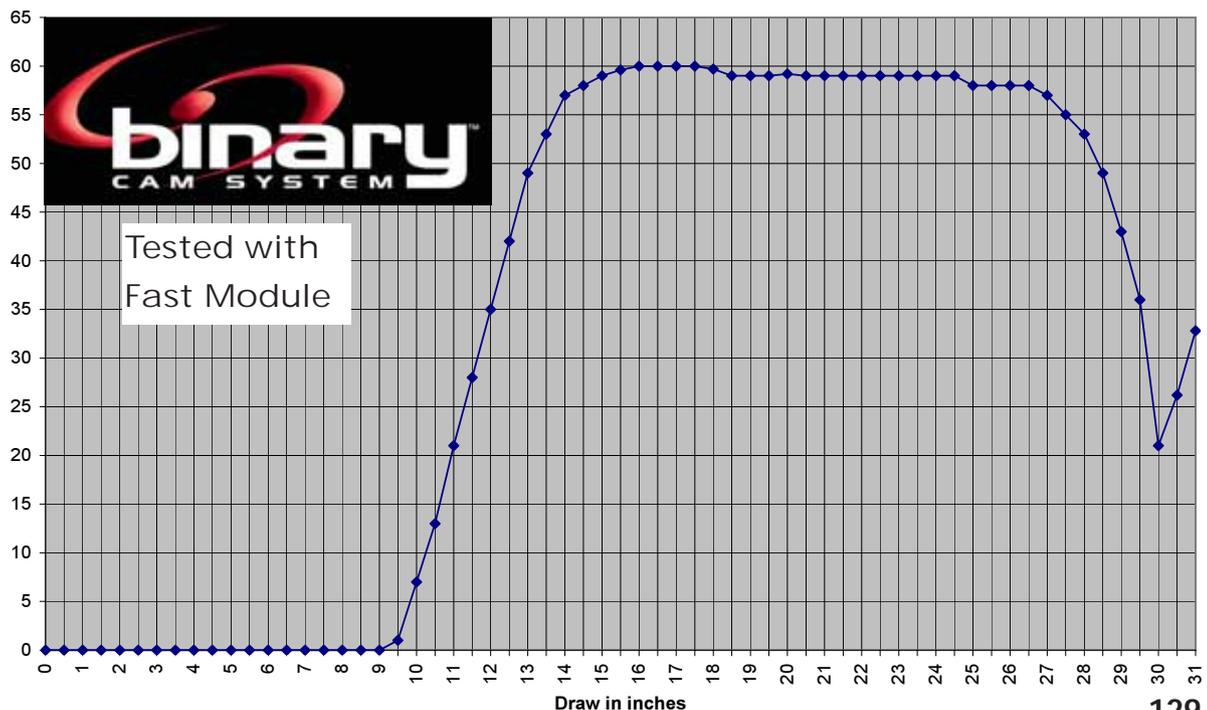
Testing:

Testing of the Tribute started with a thorough inspection of the mechanics, machining, finish and overall workmanship. It is apparent that BowTech's in-house dipping facility processes have been perfected, as the finish on the test rig was absolutely flawless. It always amazes me how outdoor product manufacturers manage to apply such a per-

fect camo finish on complicated geometries. The machining on the cams, riser, limbs and limb pockets were without blemish and the mechanical aspects of the bow checked out as well. Attention to detail and overall workmanship on the Tribute are obvious.

The 60 pound pull test bow was set up with my standard rigging for ArrowTrade bow testing – string nock, N.A.P. QuickTune 3000 arrow rest, and a 30 inch draw length. Both the fast and smooth modules were tested. All shooting was done with a T.R.U. Ball Pro Diamond release aid. Also, standard to the testing set-up is a 540-grain Easton XX78 Super Slam aluminum arrow. The set-up was then paper tuned to an ever so slight nock-high tear. I find that bows generally perform best when this tear pattern is achieved using this style of rest. I want to stress though that the nock-high tear is slight – not pronounced.

Four subjective test variables, noise level, smoothness of draw, shock/vibration and feel of the grip, were tested by comparing the Tribute to three other short axle to axle bows with similar specs. Generally I use bows from my own stock but only had two others and had to borrow one from my friends at a local pro-shop – thanks guys! Together the rigs ranged from



\$450.00 to \$750.00 in price.

Noise was evaluated in the following manner; one person shot the bow while two others listened from various positions with backs turned or eyes closed to hide the identity of the bow being shot. This test was performed with both module options. One of the evaluators listed the Tribute as #1 while the other listed it at #2 in this category. I was the shooter and from that position would rate the BowTech #1 in lack of noise. It is an exceptionally quiet bow! Quietness, while I still haven't drawn any firm conclusions about the effect of bow noise on game reaction, is an attribute that I value highly. Outside of the effects on game, a quiet bow will generally indicate a well-engineered, efficient rig.

The draw cycle smoothness was quite different between the Tribute's smooth and fast modules and the comparison to the other bows was affected accordingly. After drawing each bow approximately 10 times, the BowTech 20 times, I would rate the Tribute tied for #1 with the smooth module and tied for #2 with the fast module installed. There was very little separating the top two bows in either case. Bottom line - the Tribute is a super smooth bow with the smooth module installed and a smooth bow with the fast module installed.

BowTech's modified profile grip for 2006 will not have much effect on those that shoot what I call a straight wristed style. The flattened heel will have a significant effect on those that use the "stop" grip or any other style grip that rests the heel of your hand on the heel of the grip. I found the grip to be comfortable using either style but was particularly pleased with how it consistently seated my hand while employing the straight wrist style.

The Tribute shines in the shock and vibration category with zero vibration and minimal kick (hand shock) at the shot. The minimal kick appears to come from the bottom limb; however, it is almost unnoticeable if you aren't paying attention. There is only one bow on the market that I know of that can match the

Tribute in lack of vibration and only one that has less kick when shot. It should be noted, however, that the bow sporting these characteristics is slower than the Tribute. Of the bows tested the Tribute was rated as #1 in this category. I noticed little, if any, difference in shock and vibration between the smooth and fast modules.

Speed was measured using an Oehler Research Inc. M35 Chronograph. Through ten shots fired into my Block Target, the average reading taken with a 540-grain arrow was 248 feet per second (fps) with the fast module and 241 feet per second (fps) with the smooth module. Just to add another reference I re-tuned the bow to shoot a 350-grain arrow and recorded an average speed of 301 feet per second (fps) with the fast module and 292 feet per second (fps) with the smooth module. (Do not confuse this with an IBO rating, which would be considerably faster at 70 pounds than with the 60 pounds I was shooting.) It should be noted that the draw length was not exactly the same when the smooth and fast modules were interchanged. The draw stop needed to be adjusted to achieve 30 inches with the fast mod and the top cam was rotated somewhat to achieve 30 inches with



The optional Diamond Wild Thing stabilizer tilts downward at angle that has been calculated to help settle the bow vertically in the hand.

the smooth mod.

The BowTech Tribute is an impressive rig from top to bottom with uncommonly stable handling for such a short axle-to-axle bow. Shootability is enhanced by the generous 7.5 inch brace height and the versatility added by the introduction of a modular based cam system is a plus. The great speed of this rig is undeniable and BowTech's rigorous limb testing ensures long-lasting safe use. The Tribute should be sold as a top performer for those looking for a high-end, top of the line bow.

Specifications for 2006 Tribute By BowTech

Draw weights: 50, 60, 70 or 80 lb. Max

Draw Lengths: 26 to 30 inches in ½ inch increments - modular

Axle-to-axle length: 31.5 inches

Brace Height: 7.5 inches

Mass Weight: 4.1 lbs

Let-off option: 65 or 80%

Eccentrics: Equalizer Binary Cam System – Fast and smooth modules available

AMO speed: Not advertised-As tested 241 with Smooth Module, 248 with Fast

IBO speed: Fast mod = 320 to 328 feet per second (fps); Smooth mod = 312 to 320 feet per second (fps)

Available finish: Mossy Oak Obsession standard with Realtree and Advantage patterns available

Cable: BCY 452X – 20 strand

String: BCY 452X – 20 strand

Grip: 1-piece wood (Modified for 2006)

Riser: CNC machined 6061-T6 aluminum - reflex

Limb pockets: CNC machined T6 aluminum

Limbs: Straight, Gordon Glass – Beyond parallel configuration

Cable Guard: Carbon – Straight, camo finished

Warranty: Lifetime to original purchaser

MSRP: \$749.00

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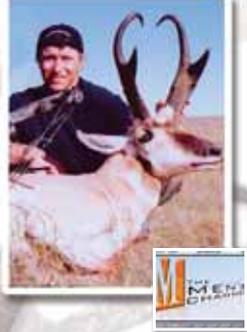


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