

Quest Primal Bow Report

By Jon E. Silks

I believe Quest Bowhunting is a company that can back up their claim to be focused on the customer - bowhunters. Besides the big performance goals the company has they also pay attention to detail. Let me give you a couple of examples to help make my point - you will not find one shiny component on their bows and their designs like the I-Glide cable containment system are built specifically for worry-free performance in the field (the I-Glide has no moving parts). When you handle and shoot a Quest you get the distinct feeling somebody that takes their bowhunting seriously designed the rig in your hands.

Quest's Primal bow is home to the unique G-FADE Durafuse finish, SYNC Two-Track Cam System, I-Glide cable containment fixture, laminated two-piece wood grip, pivoting/locking limb pockets, MIM Broadhead Guard, Bowjax limb dampers and a riser mounted String Stop.



Quest outfits the Primal with their SYNC Two-Track Cam system. The cables share a track on each cam and are forced to work together as they are both anchored on both ends to the eccentrics. The result is a self adjusting cam system that requires little maintenance.

Execution

Sometimes the best way to success is simple execution. That is why you will hear sports coaches yelling out, "Let's get back to the basics here!" Keeping things simple without sacrificing performance, and in fact, enhancing it, is what Quest Bowhunting is all about. Their SYNC Cam system is a perfect example. The two track cam employs just that, only two tracks. One track is used for the string while the other is used for both cables. During the draw cycle one cable is being let out while the other is being taken in, all on the same plane. This eliminates the need for an additional track and in turn, additional width. Space is saved on the cam (side to side) that allows the cables to be positioned near the center of the axle. Why is this important? During the draw cycle much of the applied load is focused on the cables. If they are far off to one side or the other the limb ends will want to dip toward the side where the cable is anchored creating cam lean. A cam that is canted to one side (leaning) is not as efficient as one that is in line and on track resulting in decreased performance. Many times a simpler design is also equal to less problems and that is the case with the SYNC Cam system. Because the cams are tied to one another it makes it impossible for them to rotate independently. This means that the cams will stay in sync regardless of issues such as string seating/stretching. They can still be out of perfect tune, however, the effects of that condition are greatly reduced or eliminated. Shootability remains intact as nock travel continues to be consistent and cams will not double bump at the end of the draw cycle like a two cam system does when the cams are not rolling over at the same time. Of course we all want our bows to be in perfect synchronization and tune, however, if some small issue slips by you while shooting the Primal you will not lose shootability. Basically this cam system is low maintenance.

The Primal SYNC Cam system not only has a nice personality - it also has the goods to back it up. IBO speeds are advertised at 330 to 332 fps and our tests came in only a few feet per second off of that mark - that is a good thing in case you were wondering. I tend to make a big deal out of manufacturers who either hit their advertised speeds or come very close to them. It is my way of encouraging all companies to strive for this mark. Good job Quest.

Draw lengths are adjustable between 26.5 and 30 inches in half inch increments through a series of modules. Since the modules actually contain the track for the two cables it does require a bow press to change out. Quest also outfits their SYNC Cam system with dual draw stops, which can be adjusted to change the

Bow Specifications			
Manufacturer:	Quest Bowhunting		
Model:	Primal		
Website:	www.questbowhunting.com		
Draw Weights	50, 60 and 70 lb peak	Finish	G-FADE
Draw Lengths	26.5-30" - modular	Grip	2-Piece laminated wood
Axle-to-axle length	32"	Riser	Reflex, 100% Machined
Brace Height	7.125"	Limb Pockets	Pivoting, locking
Mass Weight	3.9 lbs	Limbs	Machined carbon/glass
Let-off	80 percent, adjustable	Cable Guard	I-Glide
Advertised IBO	330 - 332 fps	Warranty	Limited Lifetime
Eccentrics	SYNC Two Track	MSRP	729.99 G-FADE
Strings/Cables	Matrao Custom, In house		

letoff and feel of the valley at the end of the draw cycle. Letoff is adjustable up to 80 percent. The machined aluminum cams ride on stainless steel axles and precision ball bearings. Quest anodizes their eccentric system in black.

Talking Points - Cam System

(Notable bow features/characteristics to bring up during the selling process)

- You have got to like the benefits that this kind of speed brings your way. Anytime you are in the woods you want maximum penetration and the flattest arrow trajectory possible - speed will get you there.
- An 80 percent letoff option allows you to hold on target for that extra few seconds needed in a critical hunting situation.
- A system that is low maintenance is a big bonus - most of us want to dial our bows in for the season and not have to mess with them again until we are shooting indoor winter league.
- This cam system has the aggression and long lasting peak characteristics needed to generate good speed, however, it also has well rounded transitions to and from peak for an overall smooth draw cycle

Functional Riser - Cool Finish

While there are many functional components and features on the Primal riser I want to start with one that is not only functional but looks great as well - the G-FADE finish. Starting at the handle in solid black this finish fades to camo toward the end of the riser and into the pockets and limbs. It is beyond a single pattern, it is a unique use of two distinct finishes that blend into one overall stealthy cloak. Quest points out the advantages of this pattern for the ground blind hunter (black center) as well as those perched high above (camo). The G-FADE finish is applied through the company's proprietary Durafuse process, which is advertised to be more durable and exceed the life of dipped or painted surfaces.

Also featured on the Primal riser is Quest's one-of-a-

PHOTO RIGHT: Quest has introduced a unique blended camo pattern in their G-FADE finish. The center of the riser is solid black and fades into camo toward the ends of the riser, pockets and limbs. Quest employs their proprietary Durafuse process to apply the finish.

PHOTO BELOW: Quest's I-Glide cable containment system is a back country bowhunter's dream. A set of stationary, premium grade ceramic eyelets gets the job done with no moving parts and nothing to go wrong. Hunt worry-free.



kind I-Glide cable containment system. This is just another component that highlights their focus on the bowhunter because it gets the job done, gets it done well, and does it with no moving parts and nothing to go wrong. With the I-Glide the cables move freely through the two holes, which are lined with glazed technical ceramic. One of my youngsters recently had a cable slide break out of the blue. Now, it happened at home and we simply changed it out, however, if we had been on a big hunt with no resources close by it could have been a big deal. That type of thing is not going to happen with the I-Glide System, because it is bowhunter friendly.

Other riser features found on the riser include a two-piece laminated wood grip that produces a neutral hand position, broadhead guard, metal stabilizer mounting insert and String Stop. The grip consists of two contoured side plates that are seated into shallow pockets and attached with a single screw (each). The riser adjacent to the grip is also contoured to round out the grip. Safety should always be our goal and to that end Quest outfits the Primal with a Metal Injection Molded (MIM) broadhead guard that is attached to the outside edge of the shelf with two screws. The Quest name is embedded on the outside of the guard. One of my "must haves" on any top rig is a metal stabilizer insert. There is no reason to thread a stabilizer directly into the aluminum material of the riser on a top-end rig. What I especially like about the Quest insert is that they finish it in black rather than attach a shiny metal piece on the front of the bow - again, bowhunter friendly. The String Stop consists of a machined aluminum



rod tipped with a soft and pliable rubber stopper and mounts on the shooter facing side of the riser just below the level of the stabilizer insert.

Arrow Trade Talking Points - Riser

- The finish is definitely an eye catcher and it should blend well in just about any situation.
- The I-Glide is a slick design that should become a conversation piece when discussing this bow. As mentioned before it is also a good indicator of Quest's bowhunter friendly focus.
- You already know how I feel about metal stabilizer inserts - and this one is black. Even better.

Work Horse

Quest doesn't concern itself with naming every little component, feature or function on their bows. This is a no-nonsense, get the job done kind of company. Their limbs and limb pockets while not dressed up with special names do what they are intended to do. Primal limbs are made of a solid carbon/glass material, which is precision machined into the individual limb components. Each limb measures 13 inches in length, is straight (not recurve) in form and solid (not split) in construction. Quest understands that bows with parallel limbs have significantly reduced hand shock, vibration and noise over those with upright limb angles. They also understand that those three characteristics are on most every bowhunter's wish list. Naturally, they positioned the Primal limbs to reach a parallel position at full draw. The reason this limb configuration has seen so much success is found in how it distributes the energy that remains after the arrow has

Velocity Test Results			
	350 Grain Arrow	425 Grain Arrow	540 Grain Arrow
Shot # 1	327	301	268
Shot # 2	327	300	268
Shot # 3	328	300	269
Shot # 4	327	300	269
Shot # 5	327	301	269
5 Shot Total	1636	1502	1343
Average Velocity	327.2	300.4	268.6

been sent on its way. The limbs move in equal and opposite directions at the shot eliminating much of this unwanted energy. Limbs are precisely matched using deflection values for consistent performance. Draw weights are offered in 40-50, 50-60 and 60-70 pound ranges. Limbs are outfitted with Bowjax Limb Dampers.

Primal limb pockets are a simple cup design that cradles approximately three inches of the limb end. The limb bolt passes through the limb and pocket and is anchored to a threaded barrel nut seated in the riser. The limb pockets pivot during the weight adjustment process. This method of operation is considered by many to be superior to pockets that remain stationary while the limbs move. Why is any of this important? The limb-to-riser interface is critical in maintaining the efficiency, precision and accuracy of a bow. Imagine if a limb was allowed to shift an entire inch from side to side - limbs would twist and bend incorrectly, eccentrics would be tilted, etc. This exaggerated example highlights the importance of tight tolerances. A locking bolt on the pockets allows you to secure a setting once you have it adjusted.

Objective Test Categories

Kinetic Energy: 83.22 foot-pounds

This is the energy that actually goes into propelling the arrow. Basically, it is the energy that is left over from the stored energy after all of the bow system friction is accounted for.

Stored Energy: 99.12 foot-pounds

When a bow is drawn energy is supplied to the limbs. The amount of energy that the limbs can hold is the stored energy

Efficiency Rating: 83.96 percent

This is the amount of stored energy (in %) that can be successfully transferred into propelling the arrow upon release. The bow design, including limbs, limb pockets, cam systems, and axle types play into the bow's efficiency.

SE/PF Ratio: 1.42

This is the ratio of stored energy to peak force. In other words, what returns are you getting for the power you supply?

Talking Points

Limbs and Limb Pockets

- Pivoting limb pockets bring stability and consistency to the critical limb-to-riser interface resulting in the opportunity for accuracy
- Parallel limbs are almost a given these days - I would expect nothing less from Quest knowing that they are focused like a laser on their customers, the bowhunters.

Testing

A single brass nock and QuikTune 300 Arrow Rest were attached to the bow - nothing more. With the

Subjective Test Results

Shot Noise:

The shot was fairly quiet with hunting weight arrows. A little louder with speed weight arrows. Additional string silencers had an impact on noise.

Grip Comfort and Function:

The wood grip is comfortable/functional in that it repeatedly seats my hand and will provide a measure of insulation from the metal stabilizer on cold days afield.

Draw Cycle "Feel":

Aggressive enough on the front end and plateau to get the job done. Easy transitions to peak and rolling over into the valley give this rig an overall smooth draw.

Shock and Vibration Levels:

A notable kick with short lived vibration was experienced at the shot. Additional silencing accessories had an impact on these levels.

grain arrow. Before recording speeds with these arrows the bow was first tuned for each one. Most every bowhunter/archer will be able to extrapolate their approximate arrow speed in relation to similar set-up parameters and results presented from the three test arrows.

The speed result from the 350 grain arrow is entered into the Silks Outdoors Bow Analysis Program, which then automatically calculates Kinetic Energy, Stored Energy, and Efficiency.

Potential customers will generally make their bow purchase choice based on several factors including the cost, speed, shot noise, shock/vibration level, grip

exception of these two items every bow is tested, as it would be shipped to the dealer or customer. In other words, if it has string silencers or other components pre-installed it is tested with them installed. While the 'official' velocity rating for our calculations will be taken with an arrow as defined below, we will also use two other test arrows as reference points. This will be done to bring a bracketed picture of the bow's speed performance to the reader. Test arrows include a lightweight 350 grain arrow, a mid-weight 425 grain arrow and a relatively heavy 540

and the draw cycle.

In our testing for *ArrowTrade* Magazine we try to give you a feel for how a bow performs in the "subjective" areas mentioned above. You can then focus on the bow's notable subjective points when interacting with your customer. The term "subjective" can basically be translated into "opinion." Here is my opinion of this bow's performance in the following subjective categories:



TestID:	Quest Primal	Draw Length:	30"	Speed:	327.2 ft/sec
Tested By:	JES	Brace Height:	7.175"	Power Stroke:	1.76'
Min Load:	19.1 lbs	Max Load:	70 lbs	Kinetic Energy:	83.22 ft-lbs
Min Pos:	30"	Max Pos:	19.00"	Stored Energy:	99.12 ft-lbs
				Dynamic Eff.:	83.96%
Distance (in)	Load (lbs)			Brace Height:	▲
8.925	0.00			Peak Draw Weight:	▲
9	1.70			Full Draw Condition:	▲
10	12.10				
11	24.20				
12	38.90				
13	50.60				
14	61.70				
15	65.30				
16	67.90				
17	69.20				
18	69.50				
19	70.00				
20	69.60				
21	69.40				
22	69.10				
23	69.20				
24	69.10				
25	68.90				
26	68.70				
27	65.70				
28	58.40				
29	41.50				
30	19.10				

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