

2010 Compound Bow Evaluation

Quest Primal

By Anthony Barnum



Quest Primal

Introduction:

Quest Bowhunting has completely revamped its lineup for 2010 with four new product offerings. Three of these new bows are based on a single cam platform, but the Primal, designated as Quest's flagship offering, utilizes a new modularly adjustable Sync™ twin track system that boasts speeds up to 330 fps. This cam system provides adjustability in ½" increments from 26½" to 30" without requiring a complete swap out of the eccentrics. Pivoting limb pockets, a fully adjustable string suppressor, a broadhead guard and BowJax limb silencers all come standard on the Primal while 30 grain Speed Studs are placed two inches from the tip of the eccentrics, both top and bottom, to add up to 10 fps of speed. The I-Glide Cable System is maintained from the 2009 lineup and helps to reduce the number of moving parts as the integrated coated ceramic slides contained are stationary at all points of the shot sequence. One of the most notable features of the Primal can be found in the optional GFade Durafuse finish. The ends of the riser are coated in one of three camo finishes – Realtree Advantage Max 1, Realtree Advantage Max 4 or Realtree AP-HD. The camo is faded into a black finish toward the center of the riser, which provides great concealment while hunting from a ground blind. The GFade finish is a \$30 upgrade that provides great versatility and a unique look to a no nonsense hunting bow.

The Primal sample that was provided for this evaluation was measured to have a brace-height of 7.065 inches, while the axle-to-axle length was measured to be 32 5/16 inches. The requested 29 inch, 60 pound model was measured straight out of the box to have a 29 inch draw length and peak draw-weight of 61.6 pounds. When shot by hand with a 300 grain arrow, the Primal achieved an average speed of 310.2 fps in the out of box configuration with only a brass nock added to the string. Per request from Quest, a slight adjustment to the limb bolts was made to bring the Primal down to the peak draw-weight specification of 60.0 pounds, after which the bow achieved an average speed of 306.5 fps when shot by hand.

Subjective Test Results:

Fit & Finish:

As expected, the fit & finish on the Primal sample provided for this evaluation was excellent. The machining on the riser is just about flawless and only minor machining marks were noted on the interior portion of the eccentrics. I was not able to find ANY imperfections on the GFade Durafuse finish; there are not many bows that can make this claim. The limb pockets offer very tight tolerances and there was no noticeable play in the limbs. If I were forced to find any fault with the finish, I would say that Quest should use a more subtle color for the 'G5' marking that is located on the riser near the string suppressor.

Grip:

The Primal provides a 2 piece side-plate grip with a smooth finish and rounded edges. For me, the grip is moderately comfortably but it does provide consistent hand placement. With this grip, the Primal seemed to be quite resistant to torque as my attempts to intentionally twist the bow at full draw were met with quite a bit of resistance.

Draw Cycle:

The Primal stacks gradually to peak draw weight about 1/3 of the way through the draw cycle. A little bit of a hump is noticed on the back end of the draw but afterward the bow drops smoothly into a small but deep valley. One of the more noticeable features of the draw cycle is the back wall – it is extremely solid on the Primal mainly due to the dual draw stops on the cams. On average, the Primal stores 3.81 ft-lbs. of energy for each inch that you draw it back.

Sound & Vibration:

The Primal has a bit of a kick out of the bottom of the bow, twisting away from the archer in a counter-clockwise direction if viewed from above. This kick is noticeable, but not substantial; I also noted some residual vibration that remained in the riser for a short amount of time after the shot. The sound output by the Primal seemed to be on the low side of average from a shooter's perspective.

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Contact Info: Quest Bowhunting

www.questbowhunting.com

MSRP:	\$699.99	Draw Length:	26½"-30"*
Cams:	SYNC Cam	Draw Weight:	50, 60, 70*
Limbs:	13" Composite Solid Limb	Brace Height:	7 1/8"*
Grip:	Laminate two piece	Axle to Axle:	32"*
Let-off:	80%*	Mass Weight:	4.0 ^
String:	452X Metrao Precision Strings		
Damping:	BowJax, Limb Dampeners		*Advertised
Finish:	Realtree AP, GFade		^Measured

Performance at a Glance (60 lbs, 29"):

Arrow	Speed	K.E.	Momentum
300 Grains	305.3	62.1	13.1
360 Grains	281.7	63.4	14.5
420 Grains	262.5	64.3	15.8
540 Grains	233.2	65.2	18.0

Arrow (Grains):	300	360	420	540
Dynamic Efficiency:	80.6%	82.4%	83.5%	84.7%
Speed Per Inch of PS:	15.1	14.0	13.0	11.6
Noise Output (dBA):	87.7	84.0	83.8	83.0
Total Vibration (G):	268.7	248.9	227.8	188.1



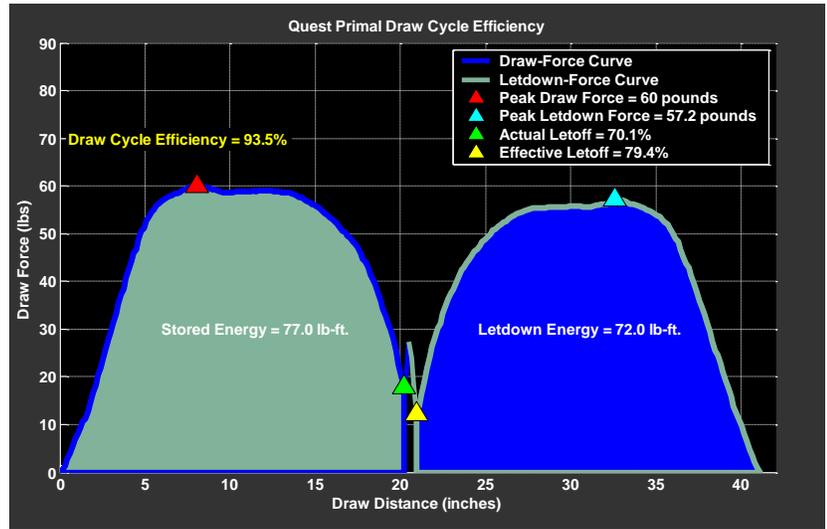
Quest Primal

Objective Test Results:

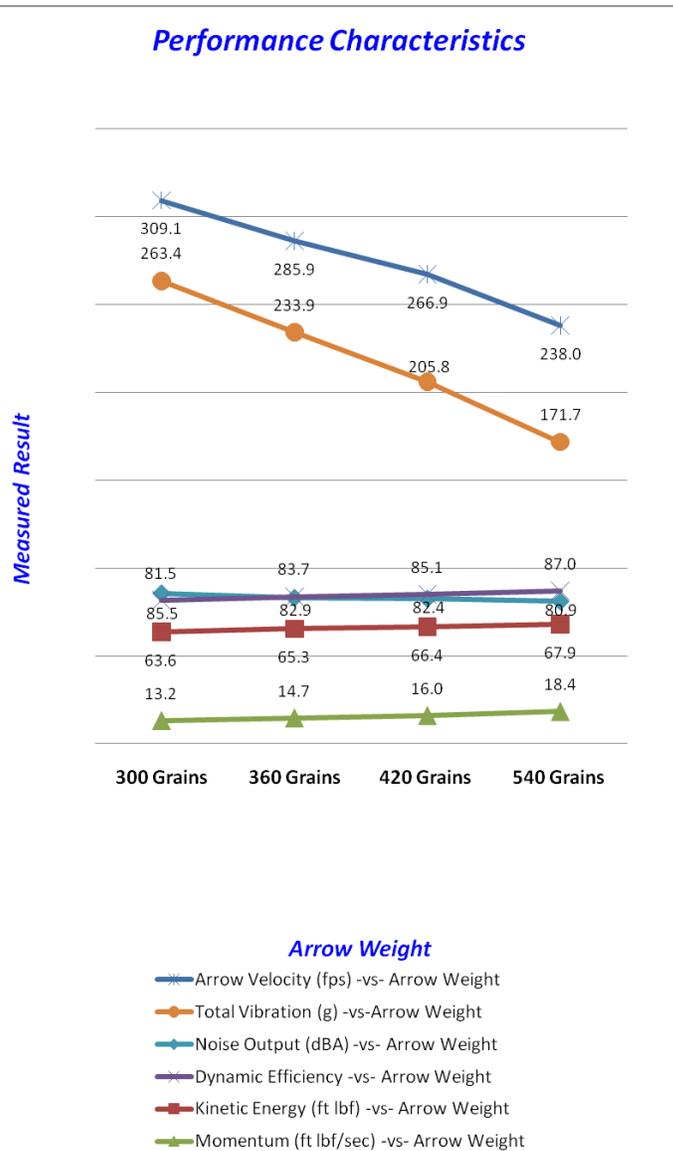
Speed / Performance Measurements:

Speed measurements are made with 4 different arrow weights to determine the average speed of the bow per inch of Power Stroke. Draw Cycle Efficiency is calculated using the stored energy and the let-down energy captured in the Force-Draw curve. The stored energy is used further to determine the average dynamic efficiency of the bow.

Speed per inch of Power Stroke: 13.4
Dynamic Efficiency: 82.8%
Draw Cycle Efficiency: 93.5%



Performance Characteristics



Vibration Measurements:

Vibration measurements are made with 4 different arrow weights to determine the average vibration in 3 dimensions as well as the total average vibration.

Positive X-Vibration: 86.4 g
Negative X-Vibration: -91.7 g
Positive Y-Vibration: 150.1 g
Negative Y-Vibration: -225.6 g
Positive Z-Vibration: 146.7 g
Negative Z-Vibration: -144.2 g

Total Vibration: 233.4 g

The addition of a 12 inch B-Stinger Pro Stabilizer with a 14 ounce weight yielded a significant reduction of peak total vibration when measured with a 360 grain arrow.

B-Stinger Reduction: 9.9%

Sound Measurements:

Sound measurements were made with 4 different arrow weights to determine the average sound output, the average A-Weighted sound output (mimicking the human ear) and the average C-Weighted sound output.

Unweighted Sound Output: 101.3 dB
A-Weighted Sound Output: 84.6 dBA
C-Weighted Sound Output: 92.5 dBC

