2009 Compound Hunting Bow Evaluation

Quest XPB Test Results

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QUEST bowhunting

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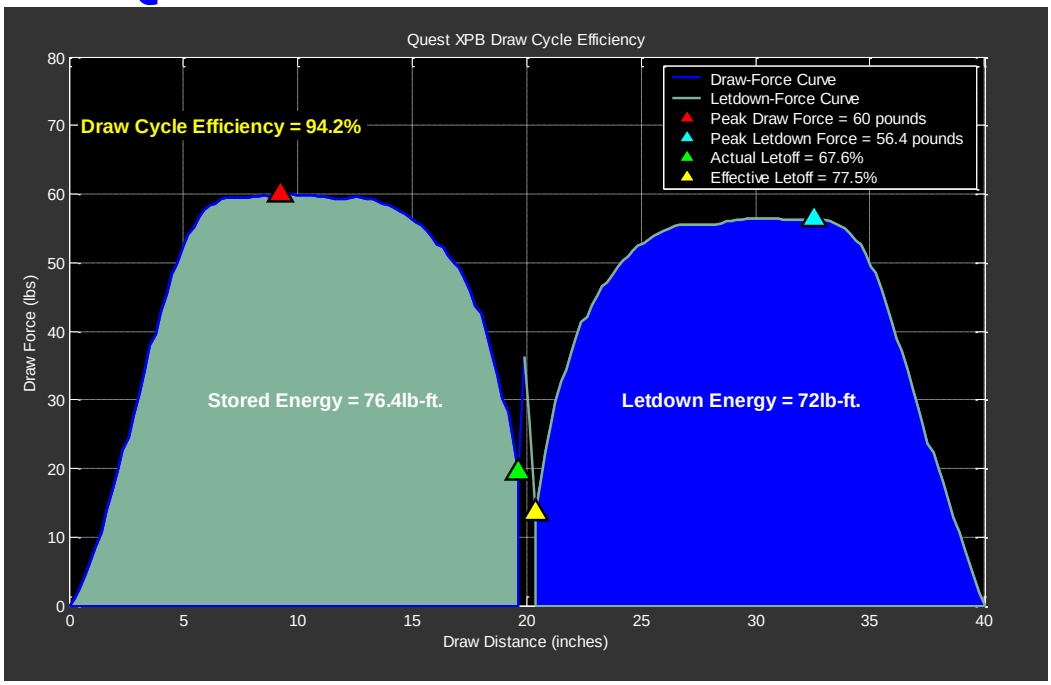
Quest XPB



Introduction:

A relative newcomer to the archery marketplace, Quest offers three different models in their 2009 lineup, with the Quest XPB designated as their flagship offering. Utilizing a Twin Track Binary Cam System, the Instead of using a single cam system found on its brothers, the HPS and QS, the XPB utilizes a Twin Track binary cam system that is licensed from Elite Archery. This cam system offers draw lengths from 27"-30" and provides dual integrated draw stops to fine tune let-off. It is used on conjunction with the patent pending I-Glide Cable System, which replaces a standard cable rod as well as roller-guard assemblies found on some bows, to provide a smooth draw cycle and good speed. The I-Glide Cable System also reduces the number of moving parts as the coated ceramic slides contained within the assembly are stationary at all points of the shot sequence. These features are combined with pivoting limb pockets, a fully adjustable string suppressor, a broadhead guard and BowJax limb silencers, all of which come standard on the XPB, to provide a fine shooting system at a great price.

Quest XPB

Contact Info: Quest Bowhunting

www.questbowhunting.com

MSRP:	$699.99	**Draw Length:**	27"-30" *
Cams:	XPB Binary Cam	**Draw Weight:**	50, 60, 70*
Limbs:	Composite Solid Limb	**Brace Height:**	7 1/2" *
Grip:	Laminate two piece	**Axle to Axle:**	32" *
Let-off:	80%*	**Mass Weight:**	4.0 ^
String:	452X Metrao Precision Strings		
Damping:	BowJax, String Suppressor		*Advertised
Finish:	Realtree® AP®		^Measured

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

Arrow	Speed	K.E.	Momentum
300 Grains	306.5	62.6	13.1
360 Grains	281.9	63.5	14.5
420 Grains	263.3	64.6	15.8
540 Grains	234.2	65.8	18.1

Arrow (Grains):	300	360	420	540
Dynamic Efficiency:	81.9%	83.1%	84.6%	86.1%
Speed Per Inch of PS:	15.6	14.4	13.4	12.0
Noise Output (dBA):	86.5	87.5	87.4	84.2
Total Vibration (G):	322.2	322.8	336.8	218.0

The XPB sample that was provided to Archery Evolution was measured to have a brace-height of 7.650 inches, while the axle-to-axle length was measured to be 32 3/16 inches. The requested 29 inch, 60 pound model was measured straight out of the box to have a 29 1/4 inch draw length and peak draw-weight of 61.4 pounds. At these settings, The XPB achieved an average speed of 311.0 fps when shot by hand in the out of box configuration with a 300 grain arrow. When shot from the shooting machine with the addition of a string loop, the XPB achieved and average speed of 309.6 fps at these settings. Even though the draw-length was within the test specifications, Quest requested that the XPB be set to exactly 60 pounds, 29 inches and five twists were added to the string per their recommendation.

A thorough examination of the finish quality showed very few imperfections. The only area where any blemishes were noticeable was on the interior portion of the cams; some machining marks were evident in the string track are where the loop end attachment post is located. Other than that, the machining on the XPB was flawless and the Realtree® AP® finish was as good as any I've seen. It is very rare to not have any noticeable blemishes on a riser as the surface area, with all of the cut outs, is quite large. Yet, none were found on the XPB and coverage on the interior portions of the riser was excellent. The camo finish on the limbs mirrored the riser and smooth edges were maintained throughout. Finally, the anodized finish on the limb pockets, cams, string suppressor, and I-Glide cable rod assembly was also impeccable.

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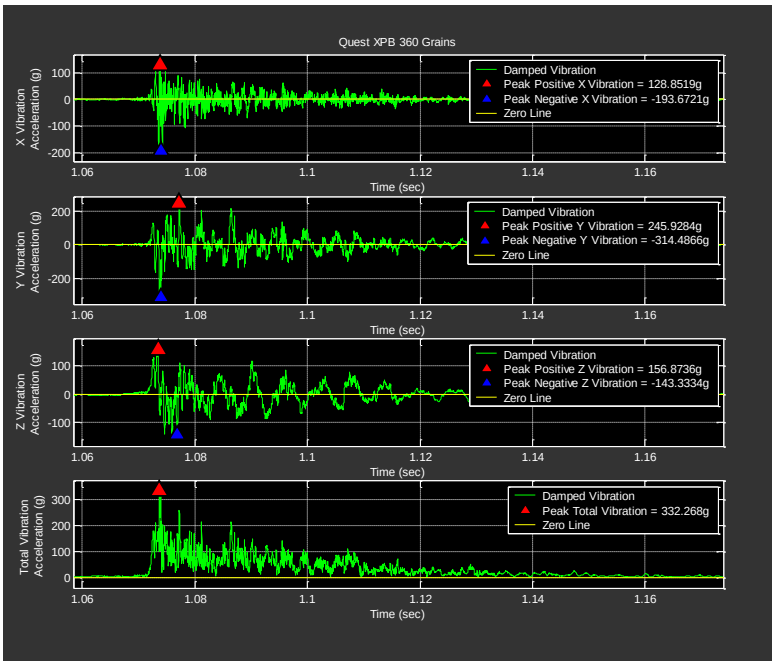
Detailed Test Results:

Speed / Performance Measurements:

Speed measurements were made with 4 different arrow weights to determine the average speed of the bow per inch of Power Stroke. Utilizing the stored energy obtained from the Force-Draw curve, average dynamic efficiency was calculated.

Speed per inch of Power Stroke: 13.9
Dynamic Efficiency: 83.9%

Speed Point Blank - 29" ± 1/4", 60# ± 1#	Quest XPB							
	Brace Height = 7.650		Draw Weight = 60.0		Draw Length = 29		Axle-to-Axle = 32 3/16	
Grains	300 Grains		360 Grains		420 Grains		540 Grains	
Chronograph	BFM	Pro-Chrono	BFM	Pro-Chrono	BFM	Pro-Chrono	BFM	Pro-Chrono
1	306.6	305	~~281.7~~	281	263.2	263	234.2	233
2	306.3	305	281.9	281	263.2	262	~~234.1~~	233
3	~~306.2~~	305	281.8	281	~~263.1~~	262	234.2	233
4	306.6	305	282.0	281	263.4	262	234.3	233
5	~~306.7~~	305	~~282.1~~	281	~~263.5~~	263	~~234.4~~	233
Avg. Speed	306.5	305	281.9	281	263.3	262	234.2	233
Kinetic Energy	62.6	62.0	63.5	63.1	64.6	64.2	65.8	65.1
Momentum	13.1	13.1	14.5	14.5	15.8	15.7	18.1	18.0
Power Stroke	19.600							
Speed per inch of Power Stroke	15.6	15.6	14.4	14.3	13.4	13.4	12.0	11.9
Avg. Speed per inch of PS	13.9							
Stored Energy	76.4							
Dynamic Efficiency	81.9%	81.1%	83.1%	82.6%	84.6%	84.0%	86.1%	85.2%
Avg. Dynamic Efficiency (BFM)	83.9%							



Vibration Measurements:

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

Positive X-Vibration: 125.6 g
Negative X-Vibration: -174.3 g

Positive Y-Vibration: 256.1 g
Negative Y-Vibration: -266.4 g

Positive Z-Vibration: 144.2 g
Negative Z-Vibration: -137.4 g

Total Vibration: 300.0 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: 19.2%

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: 104.1 dB
A-Weighted Sound Output: 86.4 dBA
C-Weighted Sound Output: 95.1 dBC

The addition of the 12 inch B-Stinger Pro Stabilizer with a 14 ounce weight yielded a reduction of peak A-weighted sound Output when measured with a 360 grain arrow.

B-Stinger Reduction: 0.9%

Noise & Vibration	Quest XPB											
	Brace Height = 7.650			Draw Weight = 60			Draw Length = 29			Axle to Axle = 32 3/16		
Parameter	Peak Noise Output (dB)				Peak A-Weighted Noise Output (dBA)				Peak C-Weighted Noise Output (dBC)			
Grains	300 Grains	360 Grains	420 Grains	540 Grains	300 Grains	360 Grains	420 Grains	540 Grains	300 Grains	360 Grains	420 Grains	540 Grains
Measurement	Max				Max				Max			
1	~~106.1~~	105.3	104.0	~~101.9~~	~~90.4~~	~~86.8~~	87.2	83.5	~~98.5~~	95.6	~~94.9~~	~~92.8~~
2	~~104.0~~	~~104.8~~	~~104.2~~	102.2	88.3	~~87.9~~	87.4	~~83.4~~	95.7	~~95.2~~	95.0	93.1
3	105.1	105.3	103.9	102.7	85.8	87.8	~~87.7~~	84.1	95.9	~~96.6~~	~~95.4~~	93.8
4	104.8	~~105.8~~	~~103.3~~	~~104.5~~	85.6	87.2	~~86.7~~	~~88.2~~	96.3	95.8	95.0	~~95.9~~
5	104.2	105.3	103.8	103.2	~~85.5~~	87.6	87.6	84.9	~~95.6~~	95.2	95.3	94.5
Average	104.7	105.3	103.9	102.7	86.5	87.5	87.4	84.2	96.0	95.5	95.1	93.8
Total Average Max	104.1				86.4				95.1			

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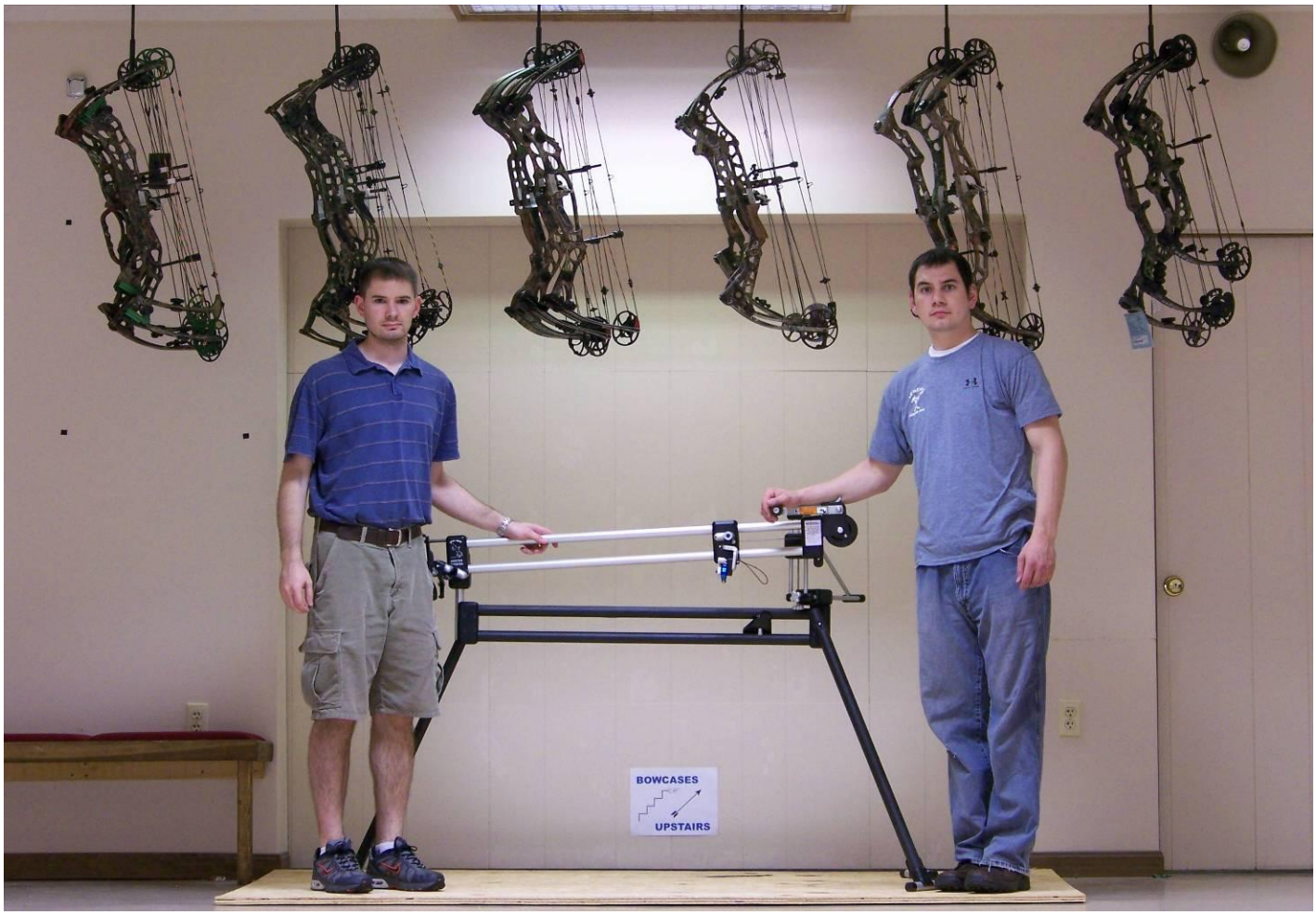

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