

2010 Compound Bow Evaluation

Elite Z28

By Anthony Barnum



Elite Z28

Introduction:

The Z28 is Elite Archery's flagship offering for 2010. Pairing up a modified Revolution Z Cam system with Barnesdale laminated solid limbs, the Z28 advertised to provide speeds up to 320 feet per second IBO. The 2010 Z Cam is a two track slaved dual cam system that, unlike the 2009 version, version implements modular draw length adjustment. While still requiring a bow press to change, the modular approach to draw length adjustment makes it much easier on the bow technician to fit the bow to the customer – pulling e-clips, axles and shims is a thing of the past with the new setup. The integral draw stops included on the eccentrics allow the archer to fine-tune the valley to their preferences while also providing an extremely solid back wall at full-draw. Another notable change to the Z28 include the use of Sims vibration damping product. Black Limbsaver® UltraQuads are installed on the limbs while Elite's E-Suppressor is also updated to include the Sims String Decelerator attachment. From the shooter's perspective, both of these items provide a noticeable difference in sound output, when compared with the 2009 Z28. Finally, for those archers looking for a unique or customize look, Elite offers both RealTree Max-1 and, for a limited time, RealTree AP Snow camo finishes. These patterns are sure to turn heads at the range while still blending in well for most hunting situations.

The Z28 sample that was provided for this evaluation was measured to have a brace-height of 7.750 inches, while the axle-to-axle length was measured to be 32 7/16 inches. The requested 29 inch, 60 pound model was measured straight out of the box to have a 29 5/16 inch draw length and peak draw-weight of 61.6 pounds. When shot by hand with a 300 grain arrow, the Z28 achieved an average speed of 306.2 fps in the out of box configuration with only a brass nock added to the string. Per request from Elite, a slight adjustment was made to both the limb bolts and draw stops to bring the Z28 into specification.

Subjective Test Results:

Fit & Finish:

A thorough examination of the fit and finish of the Z28 yielded excellent results. In fact, the only place where I could find any imperfections was on the modules where some minor machining marks were evident. With its smooth, rounded edges throughout, the black powder-coated riser was flawless and provided a sense of refinement. The limbs, finished in RealTree Max 1 camo, complement the black riser very well. The limbs and limb pockets appeared to have very tight tolerances as the limbs fit tightly into the pockets with no discernable gaps.

Grip:

The grip on the Z28 is the same two-piece laminated side-plate grip that has been used on Elite bows for the past several years. Like the remainder of the bow, the grip is contoured throughout with no sharp edges and fits well in the hand. My attempts to intentionally induce torque at full draw were met with a high level of resistance with the Z28 readily settling back to the appropriate position.

Draw Cycle:

The Z28's Z cam system is quite smooth throughout the draw cycle. The bow ramps up smoothly to peak weight early in the draw cycle, after which there is a long transition into a deep valley. The back wall on this cam system is quite solid, which, as mentioned previously, is attributable to the dual draw stops that make contact with the limbs as full draw. On average, the Z28 stores 3.76 ft-lbs. of energy for each inch that you draw it back.

Sound & Vibration:

At the shot, the Z28 exhibit very little jump or shock but the bow does tip backward and to the right ever so slightly, making it a good candidate for a lightweight stabilizer to help balance it out. Some minimal, very short lived residual vibration was felt in the riser after the shot, but it took my full concentration to actually recognize that it was there at all. Sound output seemed to be about average, and outputs a distinctly different tone than the Z28 I tested last year.

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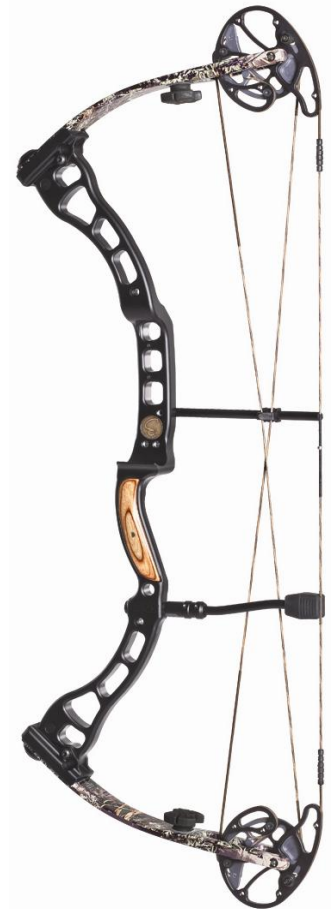
Contact Info: Elite Archery

www.elitearchery.com

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|----------|---|---------------|-------------|
| MSRP: | \$869 | Draw Length: | 27"-30" * |
| Cams: | Revolution Z Cam | Draw Weight: | 60-90* |
| Limbs: | Laminated Solid Limb | Brace Height: | 7 3/4" * |
| Grip: | Laminate two piece | Axle to Axle: | 32 1/2"* |
| Let-off: | 80%* | Mass Weight: | 4.3 ^ |
| String: | BCY 452X | | |
| Damping: | E Suppressor | | *Advertised |
| Finish: | Realtree AP, RealTree Max-1, AT Edition | | ^Measured |

Performance at a Glance (60.1 lbs, 29 1/4"):

| Arrow | Speed | K. E. | Momentum | |
|-----------------------|-------|-------|----------|-------|
| 300 Grains | 300.1 | 60.0 | 12.9 | |
| 360 Grains | 276.3 | 61.0 | 14.2 | |
| 420 Grains | 257.3 | 61.7 | 15.4 | |
| 540 Grains | 228.9 | 62.8 | 17.7 | |
| Arrow (Grains): | 300 | 360 | 420 | 540 |
| Dynamic Efficiency: | 80.7% | 82.1% | 83.1% | 84.5% |
| Speed Per Inch of PS: | 15.2 | 14.0 | 13.0 | 11.6 |
| Noise Output (dBA): | 89.8 | 88.8 | 87.46 | 86.2 |
| Total Vibration (G): | 287.2 | 234.6 | 194.6 | 181.5 |



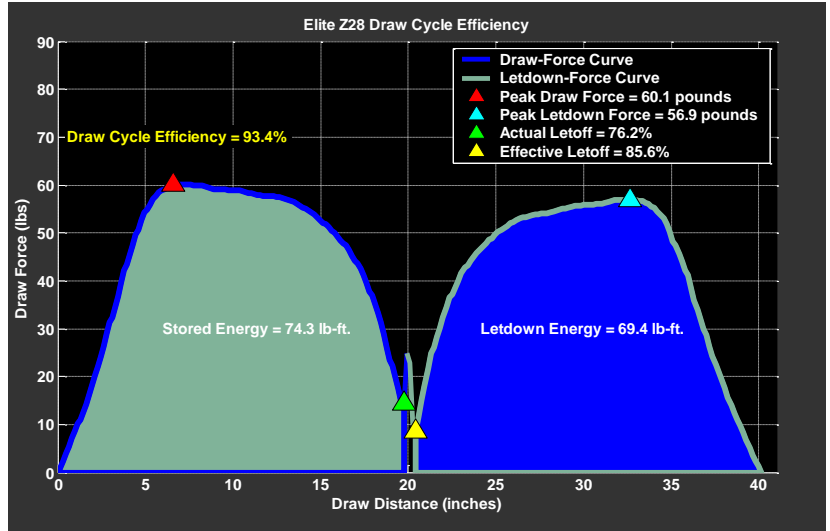
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Objective Test Results:

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: 13.5
Dynamic Efficiency: 82.6%
Draw Cycle Efficiency: 93.4%



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: 119.9 g
Negative X-Vibration: -118.8 g
Positive Y-Vibration: 171.8 g
Negative Y-Vibration: -195.9 g
Positive Z-Vibration: 97.1 g
Negative Z-Vibration: -99.9 g

Total Vibration: 224.5 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: 23.9%

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: 104.9 dB
A-Weighted Sound Output: 88.1 dBA
C-Weighted Sound Output: 97.0 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: 1.5%

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