

# BOW REPORT

By Jon E. Silks

## Mathews Ignition

**Y**ou know Mathews. Their reputation exceeds that of most every bow company on the planet. How many of you, however, know the man behind the company and his passion for young people in our sport? Matt McPherson's dedication to youth archery is not simple lip service. He has not only endorsed youth programs (an easy thing to do) he has also been a major player in outfitting and funding them as well. Sacrifice of one's time and money is often a good measure of commitment. In that respect Matt is in a league of his own.

The introduction of the Genesis bow some years ago changed the landscape of youth archery. It was basically a universal rig designed to pleasantly introduce youngsters into the sport. Get a bow into their hands and let them experience the feeling that can only be had as you release an arrow and watch it speed toward, and hit its mark. It is a disservice to initiate a child into archery with any type of performance expectations. Once they have been bitten by the archery bug they may choose to take it to the next level.

The next level is exactly what the Mathews Ignition youth bow is all about. A youngster who has decided that they want to increase their involvement and shoot with some sort of purpose in mind will be served well by the Ignition. This evaluation will cover the basics and explore the benefits offered by the Ignition.

### The Basics:

**Riser:** The Ignition's riser is made with the same precision and quality as its longer adult counterparts that have been designed to work with parallel limb designs. It is 100% machined from

a solid block of 6061-T6 aluminum and has a reflex geometry. The reasons for manufacturing the Ignition in this manner are the same as those for manufacturing adult bows this way – strength, accuracy, speed and looks. Measuring approximately 16" in length, the riser is home to numerous thru-holes, pockets and cutouts put there to lighten the mass weight and accommodate accessories. Quiver mounting pockets are included. A one-piece contoured competition grip is standard and is engraved with "Ignition" on one side and "Mathews Solo Cam" on the other. More proof that no corners are cut to make this bow, Mathews outfits it with a brass stabilizer insert. A carbon cable rod fits into a pocket on the riser and is secured with a setscrew.

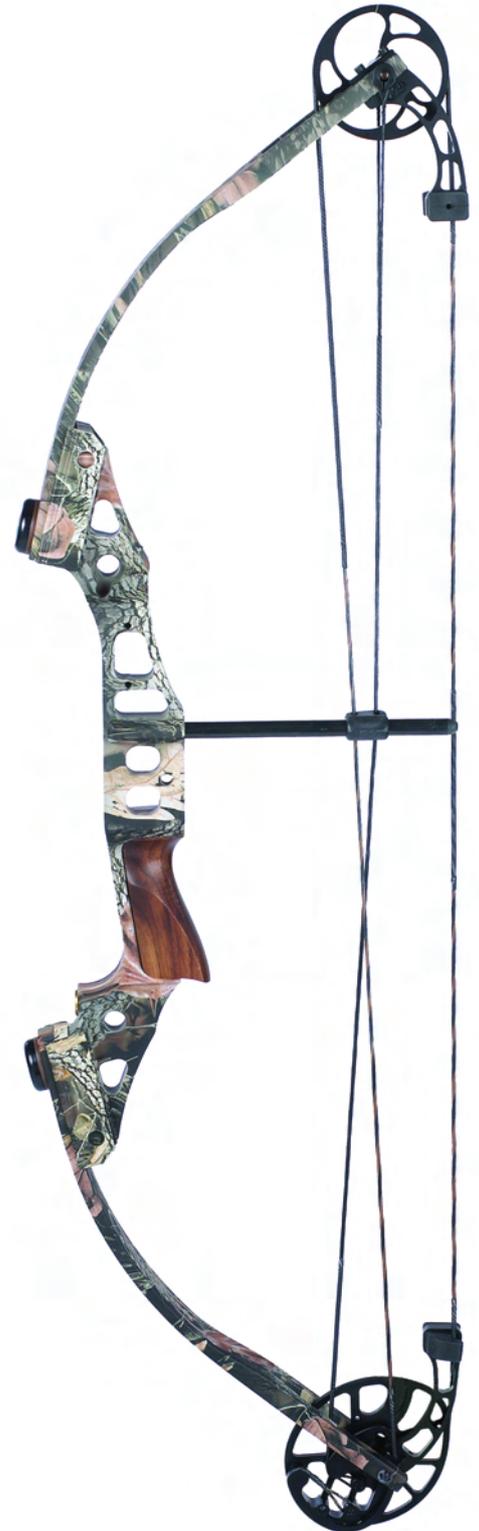
Mathews dresses up the Ignition with a film dipped Realtree Hardwoods HD camo finish and a gold 'Mathews Solocam' medallion set into a shallow pocket just below the grip. Anodized target colors are also available in Blueberry or Black Cherry.

*So, what does all this mean to mom, dad and the shooter:*

The Ignition's riser construction, 100% CNC machined, leaves no doubt that Mathews is in the business of offering youth a high-end shooting machine that they can be proud of.

A brass stabilizer bushing is a great feature for any bow and especially a youth bow. Children are not always careful to thread stabilizers correctly, which may ruin a direct thread stabilizer mount. A brass bushing will mean worry-free stabilizer mounting time after time.

Taking shortcuts in the style or construction of a youth bow grip has been a common cost-cutting measure used



by manufacturers. The Ignition is not that type of bow. It is intended to be the best and for that reason Mathews incorporated a contoured walnut competition grip for comfortable and repeatable hand positioning.

**Limbs/limb pockets:** Ignition limbs and limb pockets are as the riser – quality constructed and adult bow-like.

The pockets are CNC machined of the same material as the riser, 6061-T6 aluminum. When adjusted for weight the limb and pocket relationship does not change, instead the entire pocket pivots to accomplish the weight change. Maintaining the exact interface between the limb and limb pocket throughout the draw weight range ensures top performance through consistency and accuracy. Ignition limb pockets are either dipped in camo or anodized in black.

Limbs on this youth rig measure 14" in length and approximately 1-5/16" wide. The thickness at the belly of the limb is approximately 1/4". Both the width and thickness of the limbs flare toward the end where the eccentrics attach. This is done to strengthen the last 5-inch span of limb, which is notched to accept the diameter of the eccentrics and is charged with handling the stresses and load applied through the axles. Separate limbs are available that will provide a peak draw force of 20, 30, 40, or 50 pounds (10 pound adjustment down from each). Mathews has an affordable limb purchase program that makes it easy to upgrade the bow as your youngster grows. The Ignitions glass composite construction limbs are either film dipped in Realtree's Hardwoods HD camo pattern or painted black to compliment riser target colors.

*So, what does all this mean to mom, dad and the shooter:*

Many of our youth just simply want to shoot a bow and not necessarily hunt. Others may be fortunate enough to have a hunting bow and a target bow. For these reasons Mathews offers two terrifically sharp target colors complimented by these painted limbs and anodized cups. Basically, if you are the shooter – your bow just looks cool!

Glass composite limbs have been proven year after year on adult bows, which generate significant stresses. This material will stand the test of time and repeated use. Mom and dad, this means your money will stretch on for years.

Pivoting limb pockets equal performance. The shooter may never shoot at a level that takes advantage of this feature, however, if they ever get serious about accuracy the Ignition has all the bases covered.

Mom and dad: the Mathews limb replacement program means that you can keep your child in a top-end bow for years with little additional investment.

**Eccentrics:** Mathews outfits the Ignition with the Ignition Single Cam, which is draw length specific. This means they offer no adjustment in draw length. Individual cams are available from 19 to 26" or 22-1/2 to 25-1/2" in half sizes. The Ignition cam rides in a stainless steel axle and two bushings producing a let-off of approximately 65%. A smooth and easy draw cycle was the main goal for Mathews' engineers as

they designed the Ignition cam.

Mathews has an affordable cam purchase program that makes it easy to upgrade the bow as your youngster grows.

*So, what does all this mean to mom, dad and the shooter:*

Why no adjustability in the cams – especially on a youth bow? Holding the cams to one draw length allows Mathews to control the parameters and tolerances resulting in a more efficient system. You get top performance. To offset the limitation in versatility Mathews offers an affordable cam replacement program.

Mom and dad: the Mathews cam replacement program means that you can keep your child in a high-performance bow for years with little additional investment.

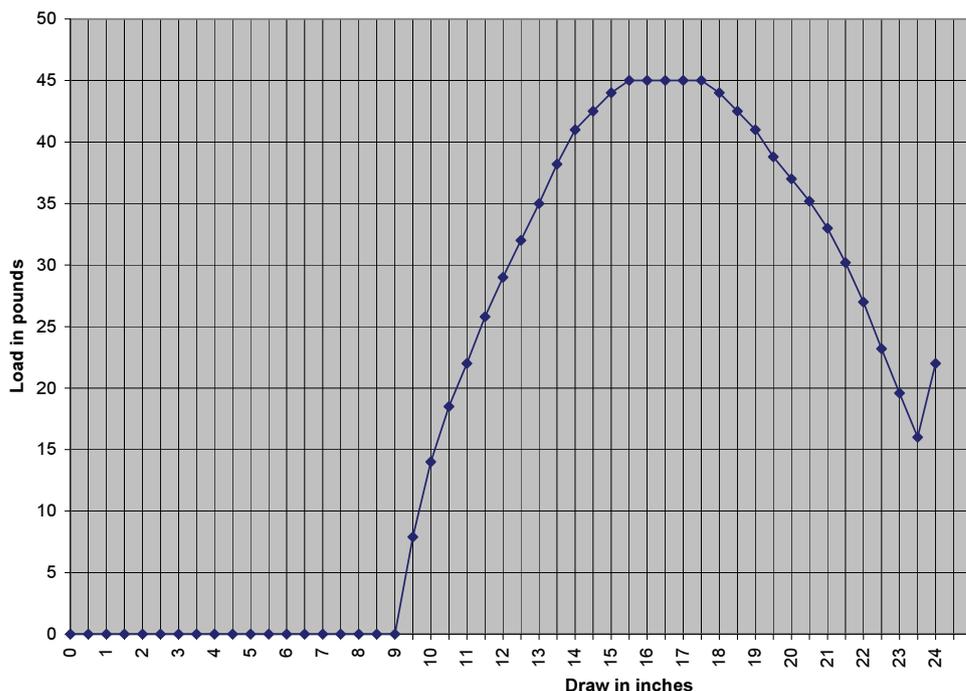
To get a general representation of cam replacement costs I contacted Lancaster Archery Supply, a well-known Mathews dealer in Pennsylvania. Their price on a replacement Ignition cam is only \$20. Some variation may be encountered from one shop to another or one state to another; however, I doubt it will be significant.

**Silencing/Shock reducing features:** A String Suppressor device is mounted on the tip of each limb and consists of a proprietary damping compound molded in the shape of a hook and mounted into an aluminum bracket. *So, what does all this mean to mom, dad and the shooter:* Quieter is better for EVERYBODY!!

**Strings/Cables:** Mathews uses their own Zebra Hybrid Bowstring material on the Ignition. The string measures 84-5/8" and the cable spans 32-3/4". The Hybrid string is Zebra's newest technology and combines a precision blend of Vectran and HMPE.

*So, what does all this mean ...*String and cable material isn't a big selling point in many cases; however, it is certainly worth mentioning the success that Zebra has enjoyed.

Mathews again proves their commitment to youth by outfitting the Ignition with their latest string technology.





**Draw weights:** 20, 30, 40 and 50# peak  
**Draw Lengths:** 19 to 26" and 22.5 to 25.5" in half sizes  
**Axle-to-axle length:** 31-3/8"  
**Brace Height:** 6-1/2"  
**Mass Weight:** 2.9 pounds  
**Let-off option:** 65%  
**Eccentrics:** Ignition Single Cam  
**Advertised IBO speed:** 278 fps at 26"/50 lbs (Approximately)  
**Available hunting finish:** Realtree Hardwoods HD  
**Available target finish:** Anodized Blueberry or Black Cherry  
**Cable:** Zebra Hybrid 32-3/4"  
**String:** Zebra Hybrid 84-5/8"  
**Grip:** One-piece competition - walnut  
**Riser:** CNC machined 6061-T6 aluminum - reflex  
**Limbs:** Glass Composite  
**Cable Guard:** Carbon cable rod - straight  
**Warranty:** Limited Lifetime  
**MSRP:** \$329.00



### Testing:

I tested the Ignition in much the same way that I test an adult bow. First on my list was a thorough inspection of the test bow's machining, finish and mechanics. The machining, while not as detailed as what you will find on a bow like the Drenalin, was perfect by all outward appearances. The finish was flawless – no nicks, scratches or bubbles. Mechanically the bow performed with no evidence of binding or sloppiness.

The Ignition was prepared for testing by first confirming that the pre-set draw length was as designated by the cam, and it was - 23.5". A single brass nock and QuikTune 300 Arrow Rest were attached to the bow – nothing more. With the exception of these two items, every bow is tested unchanged - as it would be shipped to the dealer or customer.

Speed was measured with the chronographs listed above. Three different draw weights, 40, 45 and 50 pounds were tested with two arrows of different weights, 260 and 328 grains. This should give a broad picture of what can be expected from this bow in terms of speed generated by various set-ups. Following are the resulting speed ratings for each in feet per second:

**260-grain arrow: 40 pound draw**

194.6 194.6 194.4 194.6  
 194.6 Average: 194.56

**260-grain arrow: 45 pound draw**

206.5 206.1 206.4 206.4  
 206.1 Average: 206.3

**260-grain arrow: 50 pound draw**

216.6 216.6 216.4 216.5  
 216.5 Average: 216.52 fps

**328-grain arrow: 40 pound draw**

178.4 178.8 179.0  
 178.5 178.8 Average: 178.7 fps

**328-grain arrow: 45 pound draw**

192.6 192.5 192.6 192.6  
 192.6 Average: 192.58 fps

**328-grain arrow: 50 pound draw**

199.5 199.5 199.5 199.5  
 199.5 Average: 199.5 fps

A force-draw curve was then plotted for the Ignition, which is shown in figure#1. The Ignition's draw curve indicates a very smooth transition from start to finish. This, of course, was one of Mathews' goals for this rig.

Measuring just 31-3/8" between the axles, the Ignition is appropriately proportioned for smaller shooters. Maneuverability should be good even in tight spots such as a ground blind.

I use earplugs while testing a bow for hand shock and vibration in an effort to limit the effect of what is heard on what is felt. It really helps you concentrate on the movement of the bow in your hand at the release. There was a small kick and vibration noticed when shooting the Ignition. This is a common characteristic of bows that have upright pockets and non-parallel limbs. Still, shock and vibration levels were not out of line or distracting. Bow noise was minimal at the shot. My son fired the Ignition repeatedly as I listened from various positions. There were no startling sounds to speak of. The opinions of my 10-year-old son, Michael, and 13-year-old daughter, Rachel, were requested on the feel of the bow at full draw. They both were satisfied with the grip, however, Michael, who shoots with a

straight-wristed form, liked the grip somewhat more than Rachel, who uses a palm-out, "stop sign" form. I use the term "stop sign" to explain the bow grip style that looks similar to a person putting their hand up to tell someone to stop. That hand position is then rotated to the side to achieve the grip style I am speaking of. The draw cycle is as smooth as butter and will no doubt be a joy to shoot for young archers.

It should be pointed out that this bow is not limited to youth archers. In fact, while speaking with the staff at Lancaster Archery Supply they were quick to point out that they have sold as many or more Ignitions to women archers. At its maximum settings the Ignition has a 26" draw length and 50 pound draw weight, which is actually one of the more common specification sets for women.

The Mathews Ignition is a youth bow with a grown up attitude. It performs exceptionally well and is manufactured with all of the same technology you will find in most adult bows. Another benefit is the low mass weight of 2.9 pounds. Even the smallest archers will not have trouble with that load. Versatility is always a big concern with parents when they decide to purchase a bow for their children. Nobody wants to lay down his or her money for a bow that the shooter will only use for a year. Mathews' cam and limb replacement program will help you calm those fears. I have no doubt that the Ignition will be a big hit with archers all across the country.

