

PRECISION SADDLE TREE™

Kevlar® reinforcement

At Precision Saddle Tree, we use Kevlar® because it allows for lighter, thinner bars which helps to improve the balance and relationship between horse and rider with improved strength.



We want to partner with you and your large or small shop to better serve your customer and to offer you a competitive advantage over your competition.

COVERINGS

At Precision Saddle Tree, we discard tradition when superior, modern materials that make sense are available. This is especially true with our coverings. One of the primary coverings we use in our Ropers and Ranch trees is Kevlar®, the same material found in bullet proof vests, because of its immense strength. We also use fiberglass as reinforcement, and trees can be sprayed with our DURAhide™ coating to seal out moisture and add another layer of strength. Often we combine one or more of these materials in the coverings we offer.



Why Kevlar®?

Because the strength of Kevlar® is literally five-times stronger than steel, we can accomplish things that were not possible with traditional coverings.

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For example, we recently teamed with Dennis and Randy George of G Bar G Saddles in Riverton, Wyoming. We were able to work together and build a tree with thinner bars to improve the rider position. We also were able to strengthen the tree. The combination of added functionality and strength are essential in producing the high quality Bronc Saddle that G Bar G is known for.

Specifically, the thinner bars allow the rider to sit deeper in the seat and also set the rider up for more extension to the front end, allowing the rider to get higher in the neck and set his feet without resistance.

At the time of this publication in September 2010, Randy and Dennis have not received a single report of a broken Kevlar® Bronc Tree.

"Precision Saddle Tree Inc. does a fantastic job in the accuracy of the tree parts. Every piece fits perfect and seams are sealed. They are great to work with in getting your special tree correct even though it may take a couple of times to get it correct. We are now using Kevlar® trees in our Stock Saddles to ensure a more comfortable and functional saddle. We are appreciative of their quality and workmanship. We are looking to a long working relationship." - Dennis George, G Bar G Saddles, gbargsaddles.com

We place a limited, conditional LIFETIME warranty on Kevlar® trees against breakage. The warranty is limited to normal and intended use of the product.

PERFORMANCE TESTING

Why We Choose Kevlar®

In February of 2008, American Industrial Testing, an independent engineer, concluded some testing for Precision Saddle Tree, Inc. American found that on average it took 866 lbs. more direct pressure to break our Kevlar® trees vs. our competitor's rawhide trees.

Test Methodology:

Performance testing was completed on five (5) rawhide trees and five (5) Kevlar® reinforced trees made by Precision Saddle Tree, Inc. The rawhide trees all had laminated fronts, and horns were bolted on. The trees constructed by Precision Saddle Tree, Inc. were constructed without laminated fronts, horns were secured with stainless steel screws, reinforced with Kevlar®, and over-sprayed with DURAhide™.

Pressure was applied to the horn at a 60 degree angle (+/-) five degrees and continuously applied in a slow steady manner until each tree was destroyed.

The average breaking strength of the rawhide covered trees was 5,804 lbs based on consecutive loads of (6,263 – 7,400 – 3,750). The average breaking strength of the Kevlar® covered trees was 6,670 lbs based on consecutive loads of (6,760 – 7,650 – 5,600). All loads are reported in pounds of direct pressure.

What is Kevlar®?

Kevlar® fibers are 43 percent lighter than typical fiberglass, 10 times stronger than aluminum, and literally five times stronger than steel. Kevlar® is the registered trademark for a para-aramid synthetic fiber. Developed at DuPont in 1965, this high strength material was first commercially used in the early 1970s as a replacement for steel in racing tires. Kevlar® has excellent resistance to high and low temperatures. Because of its immense strength, we can accomplish things with Kevlar® that cannot be done with traditional coverings.

Need more convincing about why we love using Kevlar®?

The broken tree pictured left is how we received it in a box in three pieces. We took the tree apart, repaired it, and reinforced it with Kevlar® at the stress points.



Before



After

The tree on the right is the repaired tree now stronger than the original. Leather fits back on with greater ease and the horse and rider get the same familiar fit.

The *Precision* behind Precision Saddle Tree



We use three-dimensional scanners and computer aided design (CAD) software to engineer parts which are cut on CNC machines. This equipment allows us to produce parts that are the same each and every time.

The right bar is a mirror image of the left bar. The right side of the swell is identical to the left side. This unmatched *precision* allows us to construct trees that fit perfectly together - without the use of fillers - providing for greater strength and the highest level of consistency in the industry.

Once we capture the fit for horse and rider we are looking for in our CAD equipment, we then reverse engineer the bars to create a jig. We then assemble our trees in jigs to give you the same fit each and every time you buy a tree from us whether you buy it today, three months for now, or next year.

In addition to parts that are PRECISION cut on our CNC machine, our trees are now constructed in a *new*, Unique Combo-Jigging System. Our new Jigging System ensures the swells and cantle are properly centered on the bars and the horn is centered on the swell. We don't eye ball 'em!



Our saddle trees are made with Ponderosa Pine. We use Finland Birch plywood in our laminated swells.

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