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## Precision Saddle Tree

A New Revolution in an Old Tradition

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# Precision Saddle Tree

## A New Revolution in an Old Tradition

by Dan Naegle, Campbell  
Bosworth/Randall Machinery

Ninety years ago, in the small Texas town of Yoakum, a small tanning and leather goods company was founded. This company, today known as Tex-Tan, was the first of over a dozen national manufacturers of leather goods to call Yoakum home, including Circle Y and Tandy Brands Accessories.

Just down the road in a small red brick building, a saddletree company is set to transform the industry again. The building is a great metaphor for what you'll find here. On the outside the early 1900's architecture alludes to a craftsmanship which has proven to holdup over the decades, and, on the inside, you'll find modern technology creating saddle trees for a new generation.

Like many aspects of the leather industry, it's often difficult to transfer quality to a production environment. For years, saddletrees have been made using traditional methods. The components are normally rough sawed and hand carved. Rawhide trees are covered and laced by hand. The unique qualities of these materials can only be mastered by skilled craftsmen.

Precision Saddle Tree was formed in 2008 with a new approach to saddletree manufacturing. Using modern technology that has never before been applied to the saddletree industry, they have managed to blend craftsmanship with precision engineering.

### The Cutting Department

Our tour starts with a truckload of large rough cut beams of green Ponderosa pine. The beams are cut into manageable sections and stacked in the "Arizona room" where the temperature is kept at 120 F with low humidity until they are in prime condition to be carved into tree components with an accuracy of 0.01". Then they are moved into the assembly room.

### Tree Assembly

Precision Saddle Tree has taken special care in designing a fool proof process for their tree assembly. For each style tree, they have created CNC carved wooden jigs for assembly of the respective pieces. The fit is then checked with special made gauges to insure the proper position and angle of each piece. This process guarantees proper fitting and consistency without depending solely on a worker's skill.

Another aspect to the assembly process is how Precision Saddle Tree models their parts. As shown on the left, each tree is designed to fit together without any modifications or trimming of the pieces. Once a design is proven, each component will fit the same, whether it was made yesterday or two years from now.

### Covering the Trees

After the trees are assembled, the next step is covering them. Precision Saddle Tree offers



Arizona Room



Gang of CNC Controlled Routers



Computerized Accuracy

fiber glass, Kevlar®, carbon fiber and DURAhide™ covered trees. These materials have proven themselves to be more reliable than rawhide due to the unpredictable nature of lacing rawhide by hand.

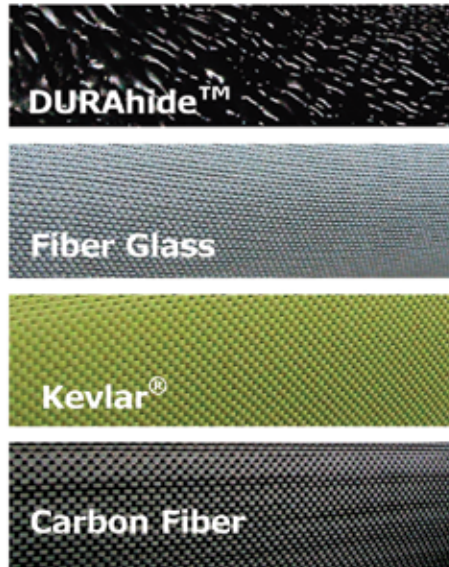
**DURAhide™**

Their entry level trees use a DURAhide™ covering. This is a durable, rubberized coating that locks out moisture while wrapping the tree in a protective skin. Stress points are reinforced with fiberglass or Kevlar® prior to coating. This is a great, economically priced option for trail, show or barrel saddletrees.

The horn, swell, bars, and cantle are wrapped with hand laid layers of fiberglass and sealed with a clear coat of resin. Fiberglass has proven to be a reliable alternative to rawhide trees, while remaining lightweight.

**Kevlar®**

Known to be five times stronger than steel pound for pound, Kevlar® is famous for its military and law enforcement applications in protective armor. Precision Saddle Tree has applied it to reinforce trees at critical stress points, including the horn,



**Precision Flex<sup>2</sup>™**

swell, bars, and cantle, with a clear coat of resin. Kevlar® is recommended for ropers and ranch trees.

**Flex Trees**

Precision Saddle Tree has become the supplier of choice for Circle Y and Tucker Saddles. It supplies the popular Precision Flex<sup>2</sup>™, the new generation in the Flex-Lite family, that combines the traditional solid wood structure with modern materials. Carbon fiber reinforced laminate bars improve strength without adding weight. Flexible synthetic tips move with the horse, allowing increased range of motion and better fit, without sacrificing support.

**Finished Trees**

Customers can order from a stock of existing designs including Ranch Ropers, Competition Ropers, Wades, Cutters, Reiners, Penners, Barrel Racers, Trail, and others. Orders normally ship within 10-14 business days and there is

no minimum. Precision is confident enough about their trees to give them a limited, conditional lifetime warranty.



**Orders Ready for Assembly**



**CNC Cut Parts**





**Ground Seats**



**Perfect Fit**



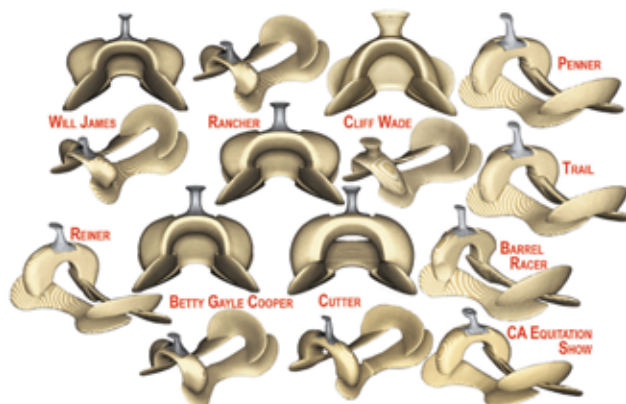
**Assembly Jigs**

For saddlemakers rebuilding existing saddles, Precision Saddle Tree can use this same technology to reproduce or reconstruct any damaged tree. The old rawhide is removed and the structure of the tree is repaired to the original fit. The tree is then reinforced with Kevlar® and coated with a DURAhide™ skin. In cases where components are damaged beyond repair, the part can be reproduced. A whole tree can even be reverse engineered using their digital scanning technology.

## CAD Engineered Design

The brains behind the CNC router system is the software. Once a tree design is proven to fit the horse and rider, whether it's a stock tree or a custom design, the parts are finished and digitally scanned. A three-dimensional scanner creates a digital model of the part which is then exported to computer aided design (CAD) software. The software can manipulate the part, eliminating imperfections. The most perfect side of the swell is duplicated as a mirror image and, therefore, perfectly balanced. The bar can also be replicated for perfectly fitting left and right pairs.

The digital design can then be cut out with a CNC router which will produce the exact same parts every time. The care taken to design these parts allows Precision Saddle Tree to produce trees that fit perfectly together without need for fillers or additional fitting when assembled. All this preparation results in stronger and more consistent trees.



## The People

As a new company, Precision Saddle Tree has taken care to create a good work environment with healthy habits. Each employee is responsible for checking quality at the various phases of production. When defects are found, they use a team problem solving approach to prevent similar issues

in the future. They are also striving to make the process more streamlined and efficient. The general manager, Thomas Stevenson, had previously worked for companies like Federal Express in supply chain management and inventory control. His experience is now being applied to saddletrees. Precision Saddle Tree employs nine craftsmen, two engineers, and two managers.

## The Future

Precision Saddle Tree has grown quickly in its first couple of years, and they hope to continue this trend as they pick up more customers. They plan to continue research in better techniques and new materials while keeping customer service a top priority. Their precision made, high quality trees are sure to make them an industry leader.

### You can contact Precision at

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- ❖ Precision parts cut on computer driven CNC machines
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- ❖ 10-14 day delivery
- ❖ New line of Ranch Ropers
- ❖ Try our new Tree Repair Service



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# PRECISION SADDLE TREE™

*The advantage over your competition.*

## INTRODUCING OUR TREE REPAIR SERVICE

- ❶ Broken tree is repaired to the original fit  
We remove the old rawhide and repair the tree to the original fit.
- ❷ As strong or stronger than the original  
Tree is reinforced with Kevlar®, which is literally five-times stronger than steel, and oversprayed with DURAHIDE™ to seal out moisture.

## WHY IS TREE REPAIR A GOOD DEAL?

- ❶ Leather fits back with greater ease
- ❷ Same familiar fit to horse and rider
- ❸ Timely and Affordable  
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- 
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  - ↔ Consistent fit ensured by our unique combo jigging system ↔
  - ↔ 10-14 day delivery ↔

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