Horses and Saddles

Saddle makers often comment that its too bad the horses don't buy the saddles. Good saddle makers make the saddle for the horse - not the rider. They know that if the saddle is comfortable for the horse, if it encourages free athletic movement in the horse and keeps the rider in the right place and in the right posture, then the saddle will earn the riders respect and affection.

The critical parts of a saddle are hard for the human to see and he feels their quality only through the quality of the horses movements and through a sense of security and comfort over a long ride. The tree, the rigging and the ground seat are hidden beneath the saddle skirts and jockeys, but they are the components that determine the quality of the saddle.

It is impossible to have a good saddle on a bad tree. The saddle tree consists of two bars that run parallel to the horses spine, a fork (pommel) that ties the bars together in front and the cantle that ties the bars together in back. Well fitting bars in a western saddle will apply only about 3/4 pounds per square inch to the horses back with a 150 pound rider up. An English saddle, because of the smaller surface area of its tree, applies about 1 3/4 pounds per square inch with the same rider up. A fifteen pound English saddle or a 38 pound western saddle amount to much less than 1% of the weight of an average horse. Saddle weight is not a factor to the horse. Distributing the riders weight comfortably is far more important.

To distribute weight evenly the bars must be in even contact with the horse's back over as much of the bar's surface area as possible. The channel between the bars must be wide enough to protect the spine and the gullet width and shape must allow plenty of shoulder freedom. If the basic contours of the bars match the horse's confirmation, then judicious use of pads can accommodate normal weight and conditioning changes over the year or from horse to similar horse. Most people prefer a certain bloodline within a breed or will like horses with similar physical characteristics. A saddle tree built to ones "type" of horse is often the best idea. (An old cowboy saying is that most of us buy the same horse over and over.)

Checking a saddle for fit on a specific horse is best done by placing the saddle, without a blanket, on the horse's back. The front of the saddle should not pinch into the horse's shoulder. The gullet should clear the withers and the contour of the back of the saddle should match the contour of the horse's back. There should be no gaps under the saddle in the middle and the saddle should sit down level on the back without rocking back and forth. Putting a bare tree on the horse is an accurate way of fitting a horse but it requires lots of experience to know how the bare tree should fit and even more experience to successfully modify a tree. Reputable saddle makers have plenty of experience and know that well made and designed trees will fit most horses. Finding a reputable maker and taking his advise is usually the best way to go. Beware of fitting gimmicks and adjustable trees. Thousands of horseman ride one saddle on lots of different horses and don't sore any of them. Good saddles should fit most horses.

It is important to remember another old cowboy adage "fitting a saddle to one horse will

kill the horse." In other words, a good saddle will out last many good horses. One too closely fitted to just one will probably not fit many others. A horse's back changes over his working life with age, and over a season with the amount of work he gets and his individual metabolism. A saddle too closely designed to one back, at one point in time, is likely to be uncomfortable for any other back. Additionally, a good saddle lasts a very long time, (my teenage son rides a 77 year old Connoly Bros. saddle) and should be made to fit most of the horses it will encounter.

Good straight grained and properly aged wood and a strong bull hide cover provide a tree that may be shaped to fit and that has the strength needed. Good naturally seasoned wood, properly covered, will not warp or shrink. The combination of good wood and a rawhide binding provides the strength, flex and memory required. Fiberglass and composite trees have demonstrated various drawbacks. The best saddles still use wood and rawhide trees.

Thoroughbreds and warmbloods usually have high, narrow and sharply sloping withers. This requires a narrow gullet and sharper angle on the bars. Quarter horses may also have pronounced withers but their withers usually are a little lower, wider and more muscular and require a wider gullet and flatter angle. Having said that, a well designed and constructed tree can be used in horses of very different backs if the rider uses pads judiciously. Padding can't make a bad tree fit but it can allow a saddle with a good tree to be used on many very different horses.

A too narrow gullet can cause the saddle to perch up on the withers and load all the weight to the back. The rider's weight will be supported only at the front and back of the bars. This "bridging" effect will sore the horse at the withers and the loins. A wrong angle in the set of the bars can cause a saddle to load all of the weight and stress over the top edge or bottom edge of the bars and this will also sore the horse. The bars should allow the saddle to sit level front to back, with the bars contoured to sit evenly in contact with the horse over the length of the back.

Gullet height in western saddles is measured from the bottom of the bars to the bottom of the fork. 8" or 8 1/2" is standard, with some roping saddles being 7" and some old timey saddles being higher. The width of the gullet at the front of the fork, and the angle of the bars as they are set in the fork, determines how far down on the withers the saddle sits and this determines clearance between the withers and the bottom of the fork. The gullet channel from front to back protects the spine from any pressure and allows air to circulate and must be wide enough to accomplish both of these requirements..

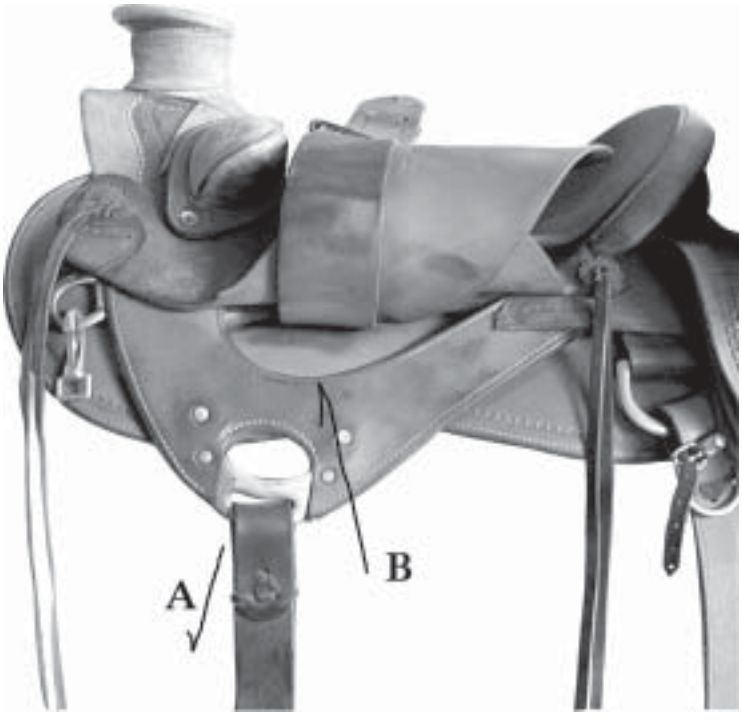
Rocker, the curve of the bars from front to back, and twist, the rate at which the bars go from the acute angle of the withers to the flatter angle at the loins, are equally important to fit. Most horses within a breed conform fairly well to others of the same breed. A saddle with too little rocker (too straight) will bridge over the center of the back putting all the weight at the ends of the bars. Too much rocker will push the back up when the cinch is tightened and then as the horse is ridden the riders weight will cause the saddle to rock back and forth and sore the horse at both ends. This can cause swelling and deep tissue injury in the loins or white spots and fistulas in the withers.

Different tree makers may measure trees differently, and each uses their own templates for bar shape. One maker's tree with specifications of 90 degree angle, 6 1/4" wide gullet for a 15 1/2" finished seat may be very different when compared to another maker's tree built to the same specification. A maker using these terms is referencing only his experience with the trees he is using. Other saddle makers may use different terms to discuss the same factors. When talking to different makers keep this in mind.

The saddle rigging must keep the bars positioned correctly during athletic movements and over long rides in rough country. It needs to keep the saddle in place without causing any restrictive pressure on the horse. Correct rigging will center the bars over, or very close to, the lowest point of the horse's back and will not restrict the horse's movements, his breathing or in any way cause discomfort. The rigging should be constructed so that it does not inhibit free swing in the stirrup leathers or create bumps or bulges under the rider's knees and legs.

Although the requirements of a rigging system are straightforward, the engineering of riggings is not. A good tree can still sore a horse if the rigging is poorly engineered. The rigging should pull the saddle down into the lowest part of the horse's back and the pull should be across the length of the seat - not at the front of the saddle close to the withers. Creating a rigging that does this is difficult since the only place that a horse can wear a cinch is in the six to eight inches behind his arm pit where it passes over his sternum and this area is well in front of, not under, the center of the saddle.

On light English competition saddles used for jumping, eventing and steeple chasing the rigging is essentially a surcingle. Typically the line of the girth forms an angle from the center of the saddle then forward and down around the horse's sternum. The saddle is pulled down and forward into the low part of the back behind the withers. This slight down and forward angle serves to keep the saddle in place and eliminates any fore and aft rocking.



Western saddle riggings must be more robust since the saddle is heavier and the tasks it often performs require much more strength. The right way to achieve the same even pull across the seat is to engineer the rigging so that a triangle is created between the fork and cantle with the cinch latigo pulling at the apex of this triangle. That's why so many fine saddles use a form of dropped rigging be it plate, O ring or inskirt. The drop creates the triangle. The picture at the left illustrates the triangle formed. "A" shows the angle of pull. "B" points to the top of the plate which on fine saddles is skived slightly to allow the fenders and stirrup leathers to flow smoothly down over the plate with no bump.

The hollow area allows the stirrup leathers and fender to swing freely over the plate. The plate is anchored directly to the tree - not to the skirt. This allows the skirt to move with the horse independent of the rigging. In this way the skirt can protect the horse from shear forces and friction better than if the rigging were pulling on it. The flat plate in this dropped position also eliminates the "rigging knot bump" that is so uncomfortable on some saddles.

A dropped O ring rigging provides the same advantages although some riders feel it creates a little larger rigging knot. An Inskirt rigging can be constructed with the same attention to engineering. The plate is essentially built into the skirt and the skirt is both under and over the tree. Though some advantages of the standard flat plate are lost, the inskirt is lighter overall and amply strong.

Keep in mind that many saddles have flat plates and other riggings that are not properly engineered. A rigging of any type must be absolutely symmetrical from side to side. It must be positioned correctly and anchored properly. A saddle with a good tree and a proper rigging will not ride up over a horses withers - even on a mutton withered, muscled up foundation type horse working down steep country. The cinch should always clear the horse's arm pit adequately and once settled, the saddle's cinch and latigo should slant back just slightly towards the center of the saddle.

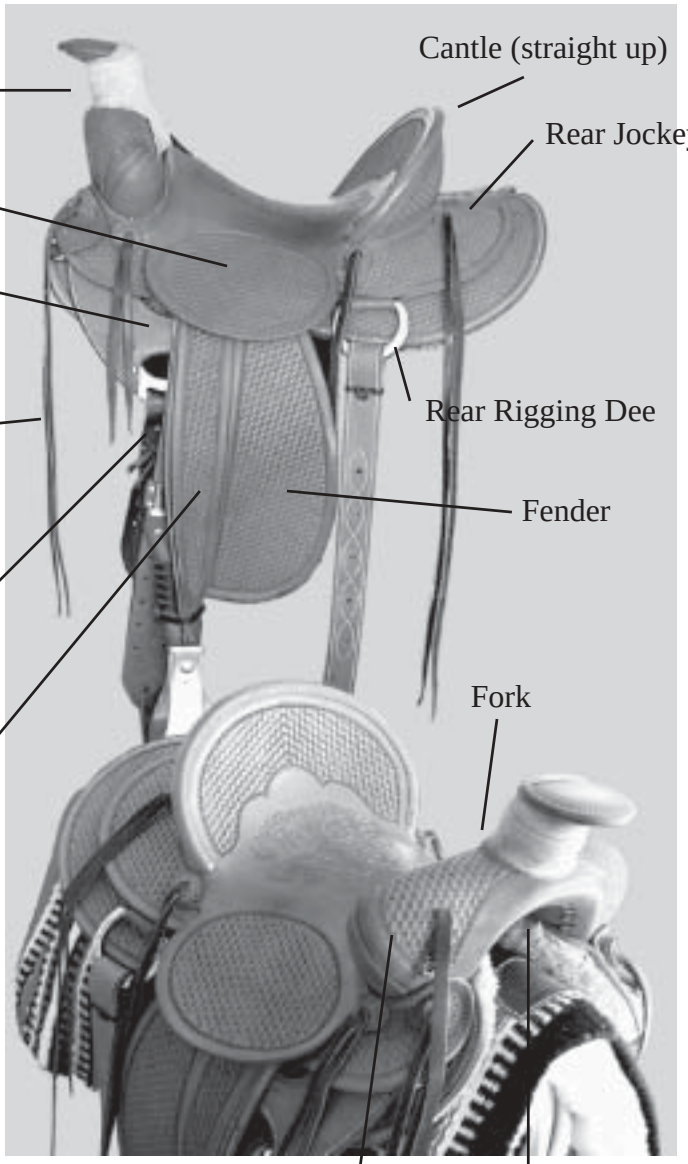
We've all ridden full double rigged saddles that work fine, however, there is a temptation to over cinch them. The straight downward pull of the rigging puts excessive pressure on the horse's shoulders. Most horse's with white spots on the withers have been wearing full double rigged saddles. We far prefer a saddle rigged with a dropped flat plate, dropped O ring or dropped inskirt system.

The Seat: The ground seat is the component that marries the rider to his horse. Though hidden under the seat jockey, it is the single component that most directly effects how the rider interacts with the horse. Master saddle makers are careful to create a centered riding position that allows the legs to drop naturally close to the horse. The ground seat should never push the rider back to the cantle or tip him forward. It should be crafted to correctly position the riders pelvic angle so that he is balanced comfortably and naturally.

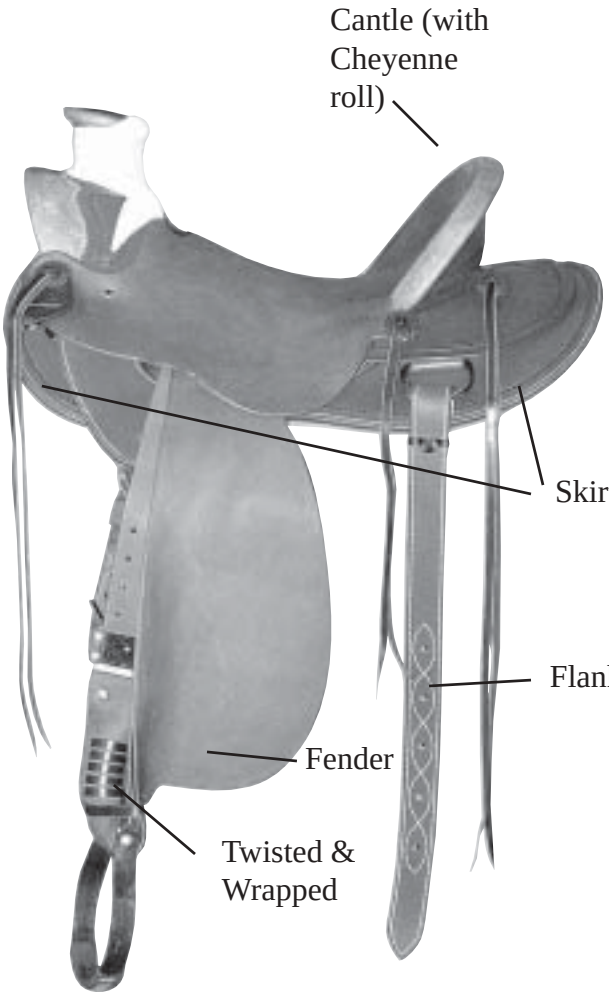
Ground seats should be constructed of several separate pieces of leather layered to form the rise of the seat, the crown (center) and shape of the seat under the seat jockey. Each layer is skived to the shape and rise required on a particular saddle. A hand shaped leather ground seat will break in to the individual rider and become even more comfortable over time. Nothing sores a horse more quickly than a rider that is too far back, out of balance or unable to stay in rhythm with the motion. A proper ground seat will encourage a rider to sit correctly and stay in balance. A good ground seat supports the buttocks, inner thighs and crotch without creating "point loading" and soreness. No part of saddle making requires more art and experience than the crafting of a ground seat.

Saddle Parts

This saddle has an Association tree with 13” swells (swell fork). It has esposed stirrup leathers - in front of the fender. It has a steel dalley horn 3” high with a 3” cap.



Both saddles have a flat plate rigging with rear dees.



This saddle has rawhide binding on the Horn Cap, Cantle Binding and Gullet.
It has a Wade fork with 8” swells (a slick fork) It has the stirrup leathers behind the fenders. It has a wood post horn 3” high with a 3 1/2” cap.

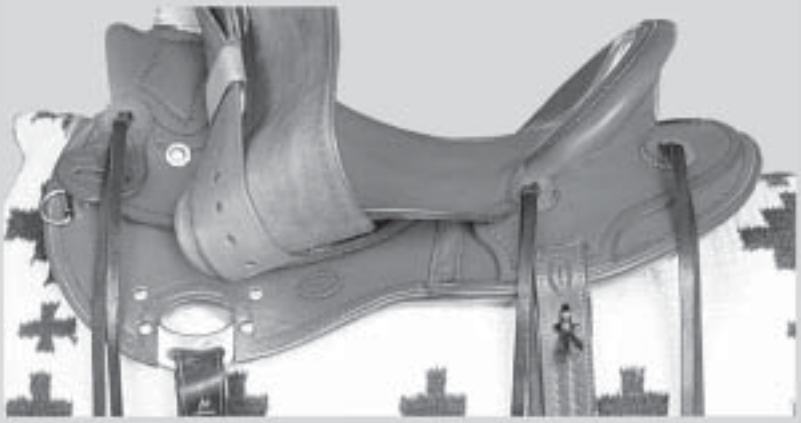
Saddle Rigging Details

Flat Plate Rigging
Screwed to the tree and reinforced with rawhide.
Scived and ramped for free stirrup swing.

Next to the bars of the tree,
the rigging is most important
to the horse's comfort and ability
to perform.
The rigging must encourage
a free swing for the stirrup leathers
while allowing the rider's leg
to drop naturally, comfortably
and close to the horse.

Dropped O Ring Rigging
All of our riggings are anchored like this.
Engineered to pull saddle down evenly across seat.

Dropped Inskirt Rigging
Anchored to the tree.
Same geometry as a plate.



The HCCC Cottonwood Saddle Tree

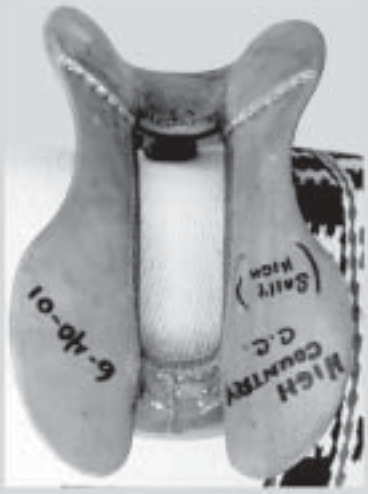
Our trees are hand made of seasoned cottonwood. The forks are laminated for strength. Cottonwood allows us to keep the bars thin without flex. We build a wide channel between the bars to insure proper fit and comfort for the horse. We shape the bars at the top of the twist (center) to allow a natural position for the rider's legs.

Because each tree is custom made to order we can shape the bars, seat size, fork and cantle to the the customer's horse and riding preferences.

The bars of each tree are carefully duplicated and balanced. The bars are carefully hand shaped at the flare and over the seat. The whole tree is then checked for trueness and symmetry.

After the tree is finished in the wood, it is sealed with a special treatment, wrapped in premium rawhide, laced and tacked and then dried in a humidity and temperature controlled room. After drying and being once more checked for trueness and finish, the tree is ready for the saddle maker.

We believe these to be the finest trees available.



Notes:

1. Thanks to Dusty Johnson. I borrowed the “pounds per square inch” calculations from his fine book Saddle Savvy. It was published a year after my first version of these notes and it was very encouraging to see that our views were so similar. If you want more information about saddles I recommend his book.

2. Favorite Video - The Snaffle Bit by Buck Brannaman. Its part of a three part series about making a Bridle Horse. The snaffle video has some exercises and philosophy that I think every horseman will enjoy seeing.

3. Centered Riding by Sally Swift - both book and videos. Great visualization of riding technique and great explanation of how we “ride the bones”.