
Riding Straps

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Let's begin with the basic idea of what a set of riding straps consists of. For the most part, the dragon wears one half of the rig, the rider wears the other on himself. For clarity, I've broken down the various parts with different names:

Fore (Neck) strap	One large wide band of leather, usually padded, goes around the neck of the dragon, just in behind of the neckridge and in front of where the rider sits.
Aft (Neck) strap	The larger belt that goes around the neck, behind where the rider sits, just before the dragon's chest and shoulders.
Neck plate	A large padded shield of leather that can come in various designs and shapes, the neck straps are run through it, sometimes criss-crossing, the plate holds them in place.
Chest strap	The really large belt that goes around the dragon's torso, just behind the wings and forelegs, used only for carrying extra passengers or for heavy duty like transporting cargo, or heavy threadfall where the winds are bad. To prevent extra slippage of the two belts on the neck.
Bridge strap	The smaller straps that run from the chest strap to the neck straps, and sometimes between the two neck straps.
Tether(ing) strap	Any of the smaller straps that holds objects like firestone sacks, baskets, carriesacks, etc to the chest strap or neck strap.
Riding belt	The belt/harness that a rider or passenger wears upon themselves to buckle onto the dragon's straps.
Safety strap	Long, thick riding straps that are fastened to the riding belt or other parts of the rider's gear that are connected to any of the dragon's straps.
Toe Loops	Braided or thick lengths of leather attached to neck, chest, or bridge straps to help climbing on or off the dragon. Also used to brace the feet in during flight.

Using The Straps

The chest and neck straps are usually buckled on, considering the necessary width (8-12") to make the belts stable enough to be used as support, there should be several buckles running side by side to keep the belts in place. This is also for safety, for if one of the buckles should give, then there would be others to hold the straps together long enough for the dragon to safely land. The

chest strap is usually a little wider since it has to be longer to fit a dragon's girth, a narrower strap would be weaker.

Riding straps are fastened from the riding belt to the nearest dragon strap (chest or neck), sometimes both neck straps, or even to the bridge straps as well. In emergencies, long enough riding straps or the safety straps may be looped around a passenger's waist to serve as a make-shift riding belt. It would be common practice to keep spare straps tethered somewhere on the neck strap.

To rig an emergency riding belt out of the longer safety straps, hold the middle of the strap at the passenger's back, then bring the two ends forward. Tie a double knot (square knot) at the waist, then loop one line over each shoulder. Criss-cross them over the back, tuck them under the first section at the waist then tie another double knot around the first section. The two ends should still be long enough to come around to be fastened to the aft neck strap.

The bridge straps keep the neck straps and the chest strap the same distance from each other so that they do not shift awkwardly during flight or mounting. The minimum recommended number of bridge straps is 3, one running from under the neckstraps, between the forelegs to attach to the chest strap. The other two on either side of the dragon, usually conveniently spaced to have extra toe loops attached to make climbing easier or to brace one's feet.

Additional bridge straps may span between the two neck straps, mostly just used for extra climbing holds and fastenings. The neck plate keeps the neck straps from shifting from each other too much, but additional bridge straps midway between the top and the plate will make it even safer.

Leather Working

One of the key things to keep in mind when rping making riding straps is that leather does NOT come in strips just the right length to wrap around a dragon. Leather is cow sized. Cows are food. You'll need /lots/ of leather.

Also, leather that would be strong enough to hold you onto a dragon has to be thick and tough. Not necessarily stiff, but resilient. In other words, while suede is pretty and feels nice, I wouldn't want to depend on it to be the only thing stopping me from plummeting 600 feet to the ground.

Leather is also a lot harder to sew than cloth obviously, but what a lot of folks don't know is that most of the time you cannot use a regular needle and thread. You also need a tool that looks something like a spike, a punching awl. To 'punch' a small hole in the leather so that you can push or pull the needle and line through it.

While regular cotton thread can be used when sewing lightweight leather like on gloves, for straps it may be too weak. Considering the length of the straps, wider stitches may be used. Less holes also means fewer stress points where the leather may tear, but too few would give less support. An estimated good spacing would be about half to no more than one inch between each stitch. The kind of thread is important too. Double twisted waxed cord is good, sinew or twisted gut is also strong, if you're making fancier riding straps, sisal cord is alright, but use the heavier triple strand twisted cord (definitely more expensive.)

When choosing the leather, be sure to check it for signs of weakness, discolorations in the hide, stretchmarks,

or holes. An easy stress test would be to give a good tug on the hide and recheck the hide. Play tug-o-war with your dragon, if it tears, than obviously the hide wasn't going to be strong enough to hold you on in case you fell off the dragon's back during flight, right? ;)

Pieces for the neck straps should not be less than 8 inches wide or else they may cut into the dragon's neck if there is too much pressure on it. Depending on the thickness of the hide, sometimes lengths of leather over 5 feet (if you can find a really big cow for it!) may tear in the middle when under stress, so shorter lengths of 3-4 feet are more manageable.

While still a weyrling, it does not pay to invest in colorfully dyed and stitched riding straps as the dragon will grow out of the first several sets at a phenomenal rate. In fact it would not be a bad idea to leave enough length on the ends of the straps to adjust for growth so that you'll have more time to work on the /next/ set. In addition, dyed leather has a tendency to be stiffer or weaker than regular tanned leather, depending on the mordant or bleach used to produce the color.

There are several designs for the actual strap. Some people prefer a simple double layer of thick wherhide or leather stitched together on top of each other, with the spacing between different pieces staggered, so that there are less exposed weak points. Another is to take pieces of leather that are double the actual width of the strap, fold it in half and sew the side closed. For dragons who might have more sensitive sides, an padding of wool or other non-degradable matter like cotton, may be used to stuff the interior of the straps for more comfortable support. Or a layer of wool or fur maybe sew to the underside of the strap to prevent chaffing. Or if available, soft suede may be added (but not substituted!) as the bottom layer.

To attach different pieces together, there are two different ways to go about it. The simplest is to place the new section on top of the old piece so that they overlap by about 1 inch. Then sew horizontally across both pieces at least twice. The second method looks more professional but is harder to do and make sure it doesn't give. The cord must be strong or else it will make the straps weak. Layer the two pieces of leather on top of each other so that one end is parallel to the other and the inner section is facing /outward/. Sew them both horizontally across at the end, leaving no more than half an inch between the stitches and the end. Then open up the two pieces, folding the sides down so that the seam is on the bottom, sew up the sides to a bottom layer with its seam facing up. This way the stitching for where different pieces meet is all on the inside, only the stitching holding the sides together will show up on the surface of the riding straps.

The riding belt is sometimes commissioned straight from the weaver and comes with the riding leathers, etc. However unless the weaver in question is a specialist in the differences between regular leather ware and the heavy duty gear a rider needs, it is wise to check the durability of the belt/harness yourself, or simply make your own belt.

The construction is similar to the straps on the dragon, though of course it will be easier since less material is needed and since it is worn over your riding leathers, there is no need for extra padding or underlining. Suede may be utilized as a top layer over a thicker bottom layer if so wished, as long as the basic support sections are there. Riders are discouraged from adding too many decorations and excessive tooling as the more punctures and thin spots present on the leather, the higher the likelihood it would break under duress. If you make a multiple layer riding belt/harness, it'll not be as weak of course, but it will become bulkier and heavier.

The belt itself is rather wide, so that incase you should actually fall, the strap will not cut into your waist and cause more damage than good. Think of something along the lines of a weightlifter's support belt or a wide tool belt. Not exactly a girdle, but more so than a belt meant for holding up pants. For further safety or for carrying young children who might not be able to hold on as easily during flight, a full harness that goes over the shoulders and waist may be worn, making the hand hold on the riding straps less necessary.

Riding straps and the long safety straps are braided cords/straps, about two inches thick. To make longer cords, new lengths are tied to original pieces, either double knotted or even stitched in the case of wider straps. The wider and shorter each length of cord is, the less number of cords are needed overall. A tight braid of several combined cords is stronger than a loose simple braid. A popular design is a tight eight strand lariat braid that is perfect for both riding or safety straps, but the flat strap that needs to be stitched together is better than the rolled cording that is knotted together because the knots will get in the way. If using knotted cord, a five strand (or more strands separated into 5 even sections) simple over lapping braid works well too. The advantage in using this method for the long safety lines is that if you loop the braid into a regular knot every foot and a half, the strap may be used as a climbing rope on rescues. (The wide knots being used as hand and foot holds of course.)

The Saddle

This section is more controversial as saddles for dragons have never been discussed in the books. However, production plans in the filming of the new Pern television series currently under way in Canada includes this design. At first, Anne McCaffrey was rumored to have protested over this inclusion. But then the technical crew explained how it was easier to meld the CGI image of the dragons with the rider if there was a saddle to film around, Ms. McCaffrey was more amiable (especially after they gave her a ride on one of those mock up dragons.)

So here is a theoretical dragon saddle design. Changes, deletions, additions will be made when/if that television series airs as well as suggestions from other players. ;)

The saddle would not resemble a runner's saddle too much since a dragon's neck is much wider. It could be nothing more than a padded thin cushion tied between the fore and aft neck straps, or a hard molded leather seat that is padded/lined beneath with wool or fur to prevent chaffing the dragon's neck. No saddle girth since the neck straps would take care of that. Instead of a single pommel in front (since that would hit the dragon's neck ridge) either no pommel or two (on either side of the ridge) for hand grips or to tie firestone sacks to. The back end could rise up a bit to lend more back support, though again it must not interfere with the neckridge behind the rider. With this sort of saddle, adding passengers would be awkward.

Stirrups would not be the same either since you're legs would need to be spread further apart to accommodate the width of a dragon's neck. More likely, the toe loops on the fore strap would be fine.