TK Slider Application Protocol

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The TK Sliders, coupled with a specific hoof preparation protocol is a refined shoeing approach for Reining Horses, Cutting Horses & Working Cow Horses, as well as any horse that requires precision sliding stops. The design of the TK Slider is unique in many respects, but for the most part is meant to fit the foot in a manner so that the shoe is proportionately balanced around the widest part of the foot, which in general is the approximate center of articulation. Other features are proving to be beneficial is the bold toe with a slight bevel to it, as well as the fairly straight inner part of the shoe, which prevents drag as the foot slides through the dirt.

There are many theories about reining horses or the sliding aspect of the maneuvers they perform. Many believe that reining horses slide on their heels, which is the reason for the extra length of the heels of the shoes. Some feel that a longer, narrow toe helps the horse slide better, similar to the concept of a snow ski, again, assuming that the horse is primarily sliding on the back half of the shoe. However, in our experience in shoeing reining horses, or any horse with sliding plates, we have yet to see a shoe worn out in the heels of a shoe. For the most part sliding plates are worn in a wedged form, with most of the wear taking place in the front half of the shoe. (Figure 1) Another reason we feel that horses primarily slide with the most force being applied to the front part of the foot, is due to the type of skeletal, muscle, and suspension system at work on the hind end of a horse. The hind end is basically a reciprocal apparatus whereby as the horse comes into the stop, the back arches, the stifle, hock and pastern compress, and the front half of the foot is pulled into the ground. One joint cannot flex without all the joints flexing, and they flex in the opposite direction of the joint above and below it. It is physically impossible for the heel to be forced into the ground and/or the toe to be pulled up if the horse sat down in the sliding position, (Figure 2) unless the horse has tipped over backwards and the hind feet are out ahead of the front feet. If the horse does not get up underneath himself and does not really sit down well, the apparatus is not flexed as much and therefore the front of the foot is not pulled into the ground as much, which may produce a more even wear, but would probably be a poor slide and the hocks and stifles would suffer. The other problem we see in horses with a longer toe, in light of the reciprocal apparatus of the hind end, is that the more toe that extends ahead of the front of the coffin bone, the less control the horse has over the direction the foot slides, which equates to more strain on the hocks, stifles and pastern joints. Since using the TK Sliders and balancing the shoe around the widest part of the foot, which generally means the front of the shoe is around 1/2" ahead of the tip of P3, we see less strain on the hocks, stifles and pastern joints, and in most cases an improvement in soundness of those structures as well as the minimizing or eliminating of injections to those joints.

Figure 1

Figure 2

Hoof Preparation & Shoe Application

The hoof preparation and shoe application that follows has proven to yield the best results when using the TK Sliders.

1. The first step is to remove the loose tags of frog material and take an initial evaluation of foot. (Figure 3) For example we look to see if the frog is healthy, and not narrow, atrophied or stretched forward. We look to see any deformity in the bars and heels, for example them being crushed or having a sharp curve.

Figure 3

2. Next step in hoof preparation is to exfoliate the foot to expose the live or functional sole material. The live sole can be identified as the waxy appearing surface that appears just beneath the chalky, flaxy sole material. Our primary focus in the exfoliation process is the area of the toe pillars and quarters. It is critical to very specifically locate the live sole from the white line in about 1/2" to 3/4" of an inch all the way around the foot, as this will be used when effectively balancing the foot, both medial/lateral and anterior/posterior. (Figure 4) Keep in mind that you must exfoliate the foot carefully. If you take too much off and go into the live sole, you will lose your ability to accurately balance the hoof wall with respect to that structure. (We use the live sole because it is shown that the thickness of live sole beneath the distal border of the coffin bone is exactly the same from one side to the other. Therefore, if you balance the wall an equal distance from the live sole on each side, you are assured that the coffin bone will be parallel to the ground from side to side.)

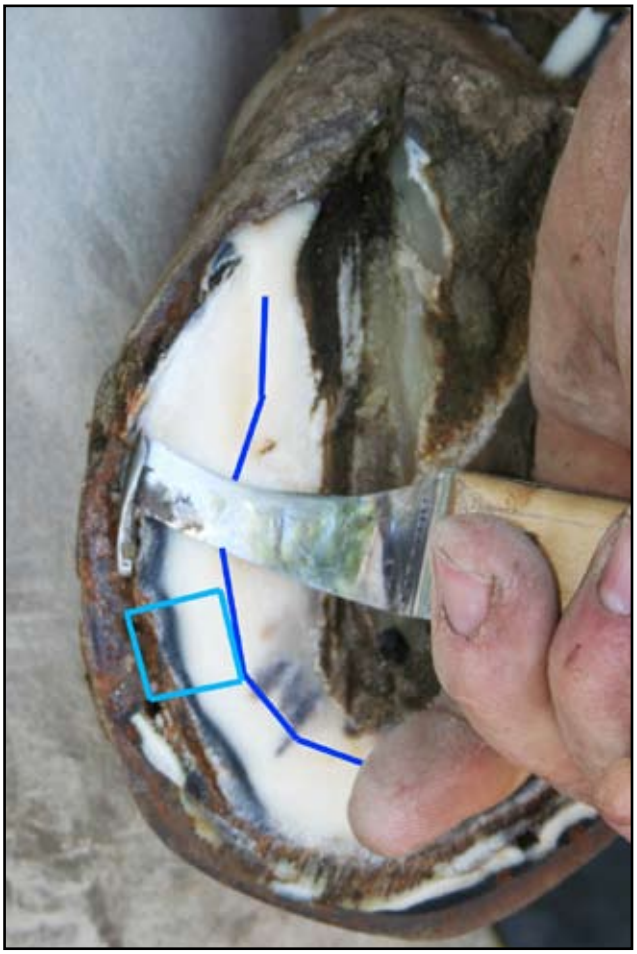

Figure 4

3. Once the foot has been properly exfoliated, we take a few moments to map out the foot and locate the coffin bone inside, as well as identify some trimming parameters to guide us. We first locate the widest part of the foot using a combination of 3 different approaches.

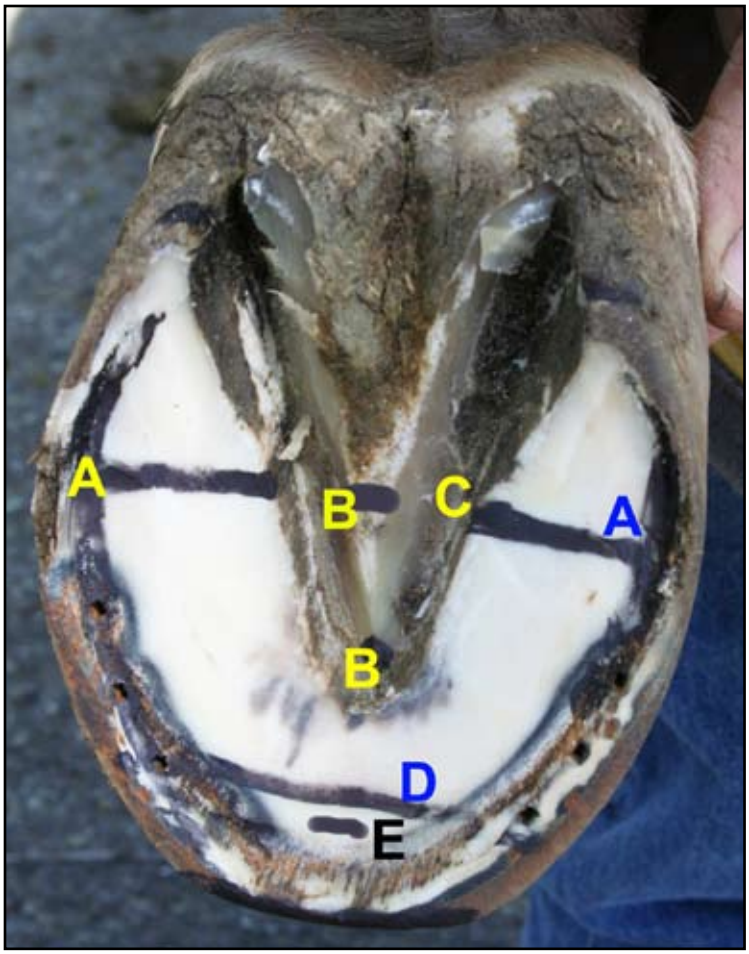

Figure 5

a: Mark an arc about 2” long in the quarters at the sole/wall junction on both sides of the foot. (Figure 5-A) You should be able to visually see the peak of the arc on each side of the foot. This is the widest part of the sole.

b: From the approximate True Apex of the frog, measure back (rearward) about 1” (on a size #0 to #2 foot) and draw a line. (Figure 5-B) This is generally the widest part of the foot.

c: Find the position where the bars terminate into the frog commissures. (Figure 5-C) If you run a hoof pick up the commissures (from the back, forward), you will find a raised hump which general indicates the termination of the bars. A line across the foot at that position generally represents the widest part of the foot.

4. After you have accurately identified the widest part of the foot, you then re-affirm the location of the TRUE frog apex, by measuring forward 1” and making a mark. (Figure 5-B) From there, measure forward another 1” and make a mark, which is a very close approximation for the tip of the coffin bone. (Figure 5-D) We generally recommend the point of breakover to be placed about 1/4” ahead of the tip of the coffin bone, (Figure 5-E) which is usually the case when you line the widest part of the TK Slider up with the widest part of the foot.

Figure 6

5. Once the foot has been mapped out and marked up, proceed with trimming the hoof wall. We generally start in the toe quarter region, and trim towards the heels, leaving a gap of about 1/4” or so as we pass through the quarters. (Figure 6) Be sure you stay above the black line and trim straight back through the heels. Do the same on each side. Then start again at one toe quarter and trim around the toe to the other toe quarter, again

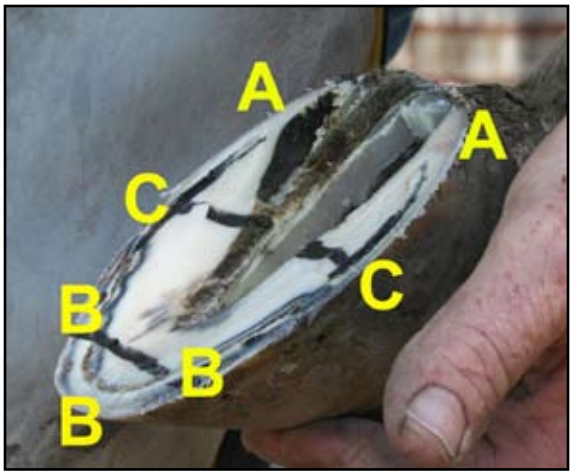

Figure 7

Figure 8

staying above the black line. This will insure that you do not trim the foot too close.

6. When you get the foot roughed in with your nippers, you then rasp the heels flat so that they have the same size landing and similar curvature on each side. The back of the heels should end at about the widest part of the frog and the landing should incorporate a small portion of the bars. (Figure 7-A) From there you can rasp the wall at the toe down to the level of the live sole, just until the black line disappears. (Figure 7-B) The flatten area should be the same width on each side in the toe quarter or pillar region. Once you get the heels and toe balance set at the level you want, you then just flatten the wall through the quarter (Figure 7-C) to the same level so that you have a perfectly flat wall all the way around. To double check your medial/lateral balance, there should be the same amount of gap from the live sole in the quarters to the ground surface of the wall (usually about 1/8") on each side. (Figure 8-A)

7. To assure that you fit the shoe to a true representation of the wall and coffin bone, we recommend dressing the outer wall and any flares that exist before shaping the shoe. Look for a prominent growth ring about half way up the hoof wall and only rasp from there down, until the wall is pretty much straight from the coronary band to the ground. (Figure 9-A) If there is a lot of distortion, only rasp the distorted wall to about half the original thickness or until the white portion can be seen at the bottom, and stop there. Next time you re-shoe the horse, you should be able to address the rest of the distortion to achieve a straight wall from the coronary band to the ground.

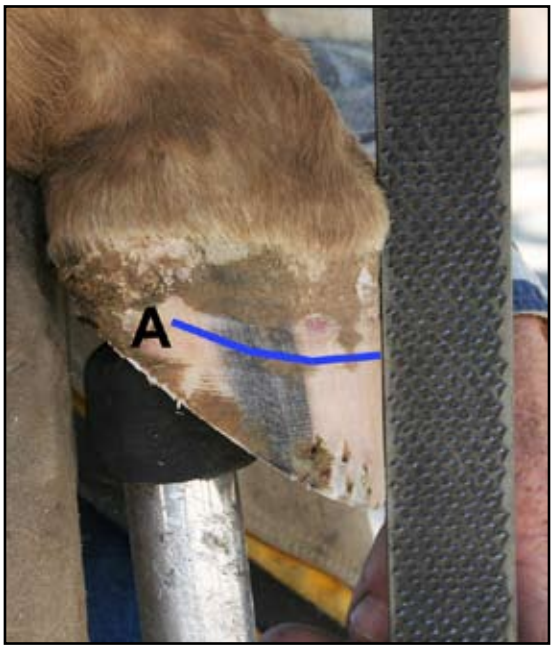

Figure 9

8. When selecting the proper shoe for each foot, make a mark on the widest part of the shoe (usually about the 4th nail hole) and line that up with the mark at the widest

Figure 10

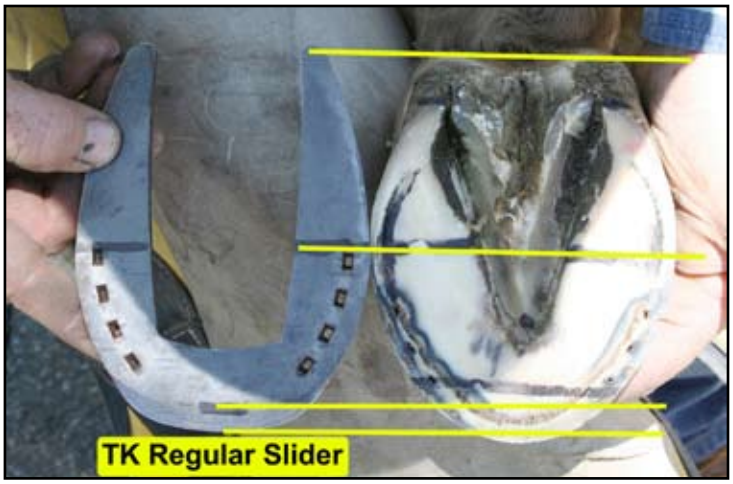

Figure 11

part of the foot. (Figure 10 & 11) Look to see that the width of the foot closely matches the width of the shoe, and that the toe-quarters of the shoe will fit the foot in that same region. (Figure 12) Also, look to see that the point of break-over of the shoe is close to the line you marked about 1/4" ahead of the tip of the coffin bone. The heels of the shoe should come to a position that is directly below the heel bulbs or just slightly forward. (Figure 13) If the heels are a little long, they can be cut off some, so the other guidelines for width and toe-quarter fit will be of higher priority.

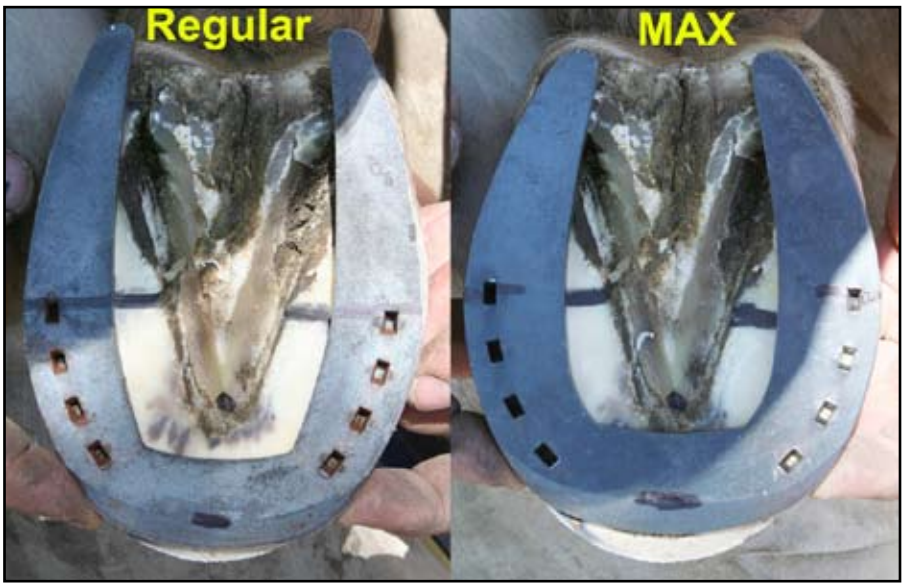

Figure 12

9. Once the proper style and size of shoe is selected, you can fine tune the fit of the shoe to the foot, which in most cases only requires closing or widening the shoe just slightly. The outer contour of the branches is meant to closely follow the contour of the hoof wall back to the heels. There will generally be about 1/8" to

Figure 13

1/4” of shoe that is wider than the foot right at the heels, and the inner part of the shoe should be such that it doesn’t cover up the frog. (Figure 14) Leaving as much frog exposed as possible is very beneficial for optimal foot function. If the heels need to be cut off some, now is the time to do that as well. Once the shoe is shaped to the foot, you should box or round the heels on ground side of the shoe. (Figure 15 & 16) This will deflect any contact from the other foot.

Figure 14

Figure 15

Figure 16

Figure 17 **Figure 18**

10. The nailing process with the TK Sliders is basically the same as any other shoe. We recommend using a nail designed for sliding plates, like a Capewell 5 Plater Special. We usually use all 8 nail holes in the shoe, but if for some reason you chose not to use a nail hole, it is necessary to plug that hole with a nail, cut it off and flatten it on the foot side of the shoe, prior to applying it to the foot. You then line the shoe up with the center of the foot to get it symmetric around the center of the frog. (Figure 17 & 18) We really stay away from turning the shoe one way or the other on the foot to get them to slide straighter. We have found that by balancing the bone parallel to the ground from side to side, and reducing the leverage and strain in front of the coffin bone, that the horse’s natural ability to slide straight and maintain control in the slide is very much improved, so many of the other methods used to straighten out a horse’s slide are seldom necessary.

11. The clinching and finishing protocol is fairly basic and standard. However, if there is any amount of toe sticking out ahead of the front of the shoe, then we will just undercut that amount at about a 30 or 45 degree angle. (Figure 19) We do not recommend bringing the wall back to meet the front of the shoe, as you have already pre-finished the foot and removed as much dorsal wall that is safe. Once the foot is clinched and finished, you will then need to rasp the heads of the nails down flush with the ground surface of the shoe. (Figure 20) If you do not do this, when the horse slides it will have too much resistance and the dirt will is likely to erode groves in the shoe behind the nail heads, and it can effect the direction of the slide.

Figure 19

Figure 20