

Understanding PASO FINO BITS

By: Joe Pons
Certified Equine Appraiser &
International CONFEPASO Judge

About ten years ago, a gentleman from Colombia wrote an article related to bits in "Paso Fino Horse World". The same was titled "The Physics Analysis and Fine Art of Paso Fino Bits." I agree with the author that, as it relates to bits, there is "too much speculation and too many misunderstandings." I also agree with a number of other points in the article but, there is one conclusion with which I am totally in disagreement: That is when he states, and I quote: "In summary: The form of a bit's shank is not important in providing the horse's head position. The direction of the FORCE made by the rider's hands on the rein is very important in placing the horse's head into position."

In my humble opinion, if that were the case there would be no need for different length and shapes of shanks. We could just as well work with one "universal design" that would, among other things, save Paso Fino owners hundreds if not thousands of dollars.

Not long ago, I had the pleasure of visiting a friend's Paso Fino horse training farm in Ocala. There I saw a wall that must have had over 300 bits neatly lined-up and displayed. These probably represented an investment of close to \$20,000. When I looked at all these bits, I asked myself: Do trainers and horse owners really know the intended use of design of each one of these bits? Will they really use all of these bits? Do they really need all of these bits? My answer to each one of the three questions was "No."

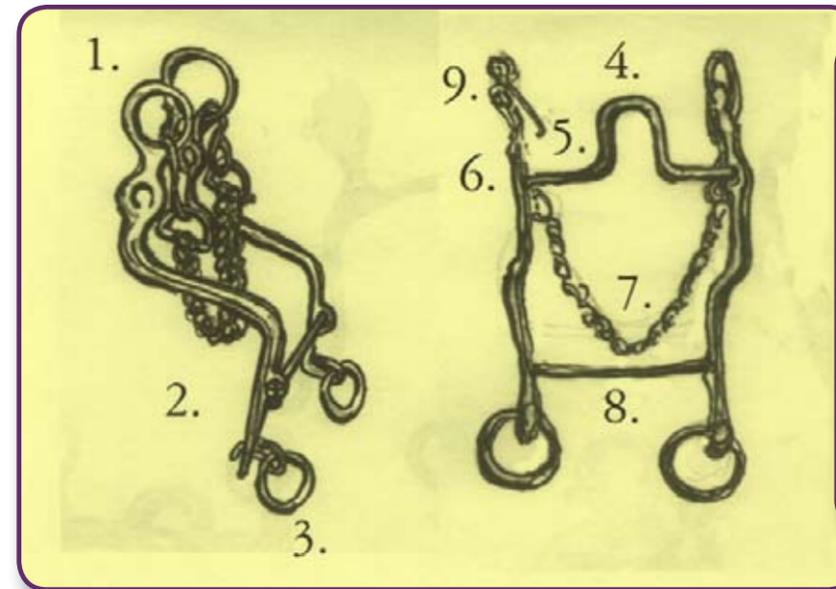
One of the challenges that we face with Paso Horses and the respective bits is that there is no other breed in the world with such a huge array of bit designs and combinations thereof. The selection is almost "infinite."

Perhaps fortunately for us Paso Fino folks, of the seven or eight "families of bits" (snaffle, gag, draft, "Pelham and Weymouth," flexible, hinged and jointed and bitless), we mostly work with a family known as "leverage or curb bits" (a.k.a. lever and fulcrum bit or shanked curb bit). The two main considerations that "govern" this selection are: breed and intended use (discipline).

Despite their great popularity, "curb bits" are one of the most misunderstood pieces of horse gear. Most trainers that I know agree that a curb bit is strong. That means that they should exercise a lot of caution and a great deal of patience when using these, especially when working with young horses. On the other hand, I have also found that most trainers ignore the "physics" of the "curb bit." Little pressure from the hands can mean a lot of pressure or even pain on several sensitive areas of the mouth and head.

The reason we use these bits with Paso Finos is because we pursue good collection, high carriage and head posture, a well-balanced horse when in gait; smooth, sustained gait with good rhythm or cadence and the ability to control turns and adjust or calibrate gait. In that respect, leverage bits are ideally suited for the job.

When talking about these bits, we cannot just look at the physics or mechanical function of the same. We must consider what is known as the "biomechanics" of the bit. This refers to the interaction of the mechanical functions and movements of the bit as it relates and interacts with



1. HEADSTALL OR CHEEK RINGS
2. SHANKS
3. REIN RINGS
4. PORT
5. MOUTHPIECE
6. FULCRUM
7. CURB CHAIN
8. SHANK HOBBLE
9. PURCHASE

the anatomy of the horse's mouth and various points of control on or near the head. Again, as I just mentioned, there is quite a bit of misunderstanding on the subject, not to mention, in the good sense of the word, "ignorance."

Case in point: Not long ago, I gave a presentation on bits to a relatively large group of horse enthusiasts. Among those present were trainers, owners, several vets and the general public interested in learning more about horses. When I began my presentation, the first thing I did was ask the audience if they knew how many points of control existed in, on or around the head of a horse. I had lots of guesses but not one got it right. The correct answer is eight (See illustration). Leverage or curb chain bits interact in one way or other with all eight points.

Lever and fulcrum bits are composed of four major parts: The purchase, the shanks, the fulcrum or mouthpiece and an affixed curb chain. The basic mechanical principle of these is the following: As the shanks move upward (pulled by the reins), the purchase moves forward and down pulling on the headstall, as it pivots on the fulcrum. Meanwhile, the curb chain acts as a counterforce to the mouthpiece that acts as a lever as it rotates. In addition to acting as counterforce, curb chains have two additional and important functions. These are: To adjust degree of "authority"* and act as a restraining mechanism, intended to prevent a bit from going beyond its ideal point of

action of 45°.

All four major components of the bit blend in action to exert control, adjust gait, "fix" head position and promote good balance, by interacting with the points of control.

The purchase: When "activated," the purchase interacts with the headstall, the mouthpiece, the shanks and several other parts of the bridle including the noseband and throat-band. These in turn interact with inner points of the mouth, the poll, the nose bone and throatlatch of the horse, among others. "Height" or "length" of the purchase is an important factor of consideration as the "higher" or "longer" the more force or pressure it will exert and consequently become more

"authoritative." The length of purchase is regulated by the Paso Fino Horse Association (PFHA), and cannot exceed more than three inches in length. Length is measured from the center of the fulcrum to the upper tip of the purchase.

The shanks: The shanks become "active" the moment they are pulled by the reins. These interact with the mouthpiece, the purchase, the curb chain and consequently with several points of control including chin, nose bone, poll and throatlatch. By general rule, the longer the shanks,, the more severe or "authoritative." By PFHA rules, the length of shanks cannot exceed six inches. Length is measured in a straight line from center of purchase to tip of shank hobble, not considering shape, design or





Bench Shank



C Shank



Fish Shank



Square Shank



Toad Shank

curvatures.

Shanks are also divided into groups or "families." Within these "families," all designs have an "intended purpose design." Although all this is so, not all will work according to design. A number of other factors, such as anatomy of the mouth, angle of reins, force of pull, position of bit, adjustment of the curb chain and horse's attitude and temperament can influence the results of "intended use design."

Within the "family" of shanks we have the following major types:

Square shank: These come in short, medium and long versions. They start at a 90° angle from slightly below the mouthpiece. Due to design, these shanks do not exert too much "authority." "Action"*** is relatively poor, as bits with these shanks tend to easily go beyond the ideal point of "action." To prevent this, curb chains must be adjusted tighter than normal. This may result in pain or harm to the horse. Also due to design, hand to bit relation is not very good.

"C" shanks: These come in two basic models. As the name suggests, they are shaped in the form of the letter "C." They are found in two basic types: "flat" and "cylindrical." These shanks do not impart too much "authority." The design is intended to improve collection and promote good head posture with flexion from the poll. Nonetheless, due to interaction with the headstall, these shanks have a tendency to increase pressure on the poll. They are mostly recommended for use with young horses in "mid-training" and adult horses with "sweet mouths."

Toad shanks: Most models curve like a toad's leg and end at a 45° angle to the horizontal line of the base. These are popular with Paso Finos as "authority" and "tempo"*** are moderate. Their "intended use design" is to improve collection, raise head, promote good balance and consequently, achieve better hock action. These can be used with either young or adult horses.

Bench shanks: What characterizes this group is a short horizontal piece jutting out at level from the mouthpiece which then bends downward at a 90° degree angle to form a bench like shape. "Authority" is medium and "tempo" is somewhat slow. This is because of the right angles being close to the fulcrum.

This takes "strength" away from the curb chain. The design is intended to promote collection and assist in calibrating gait. On the negative side, bench shanks can easily go past the ideal point of action, causing damage to the mouth. If equipped with a "port" on the mouthpiece, the action can harm the palate (ceiling of the mouth). Bench shanks are mostly recommended for adult, fully trained horses.

Fish tail shanks: In line with the name, these are flat shanks, wider at the base and thinner as they move toward the shank hobble. With these, "authority" is strong. As with other bits, "authority", can increase or decrease depending on the type of mouthpiece, port and purchase. The intended design is to be used with strong-willed horses and horses that tend to hold their heads "over the bit." They do not promote collection or good head posture and are given to "tire" a horse's mouth. Recommended use is only with adult horses.

Mule bit shanks: Also known as "grazing bit shanks," these belong to the "fixed bit" family. They are also known as "grazing bits" as their original intended use design was to allow horses to graze with bit in mouth (curb chain dislodged). This was due to their "soft" curbed shape and "thick" shank design. Popular in Western riding, these bits have been found to work well with Paso Finos, namely young horses in training. With these, "authority" is mild and "tempo" moderate. The mouthpiece is usually thick with a low port, adding to comfort. These bits are well suited for trail riding, depending on a horse's, education, manners and temperament.



Mule Bit

Flexible and hinged shanks and mouth pieces: These are a "sub-group" of all fixed bits. They come in an array of designs as well and are popular with trainers and exhibitors because they promote better neck flexing and better turns. They also seem to keep mouths more moist and relaxed if equipped with rollers. Nonetheless, "authority" and "tempo" are both compromised with these.

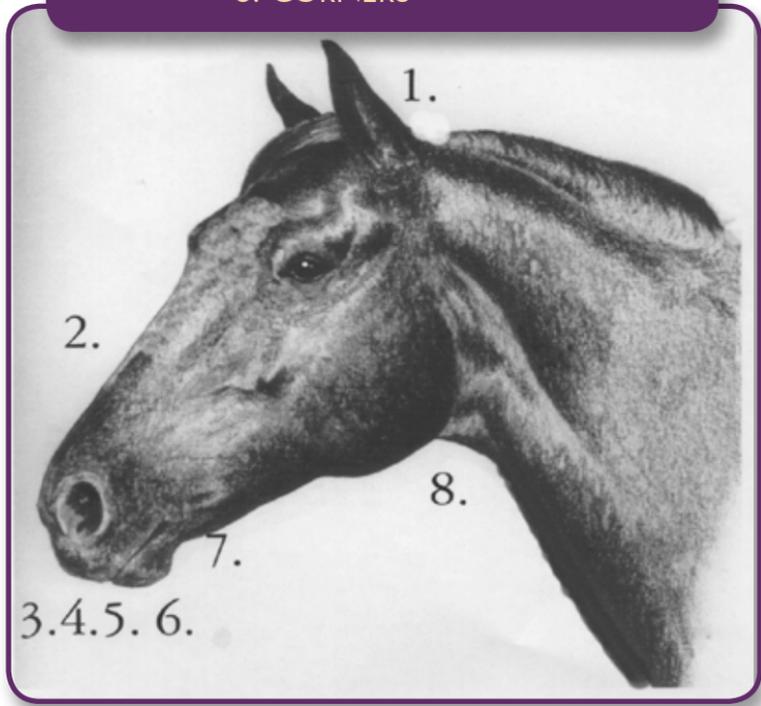
Curb chains: As mentioned before, all lever and fulcrum bits must work with a curb chain. The importance of the curb chain is such that a bit without one can lose as much as 90% of its effectiveness. Curb chains interact mostly with the mouthpiece, the noseband and the purchase. They have a direct relationship with "authority," "tempo" and "action" of a bit and can increase or decrease any of these, depending on adjustment. The general guide to adjustment is to place the index and middle finger perpendicular to the lower jawbone between jaw and chain.

A word about "bitless" bits (mechanical hackamores). "Bitless bits" are those that do not have a mouthpiece. They are a family apart from curb bits. These work by compressing the nose bone and lower jawbone between a strong rubber-coated metallic noseband and a double-knit curb chain. They are popular in Western riding and frequently used in training young Paso Finos. Thought by many to be "benign," these are quite the opposite. Mechanical hackamores can literally be "jawbreakers" and can cause excruciating pain to a horse. They must be used with prudence, particular care and little force. These are sometimes recommended for use with horses that have problems with their tongue.

Going back to curb bits, irrespective of shape or design, proper positioning of the bit is also of utmost importance. In correct positioning, the mouthpiece should barely touch the corners of the mouth. More than one wrinkle means "too tight" or too "high." It should also be noted that the lower a mouthpiece "sits" in a horse's mouth, the stronger or more "authoritative" it becomes. Ideally, bits should be comfortable and should promote a "relaxed" mouth.

A final word on bits and biting: Biting Paso Finos, as with all breeds, is a gradual and progressive exercise that will be time consuming and will require lots of patience and observation. Horses, thru signs, gestures and attitudes have a way of saying things to us owners or trainers. As we work with them and go thru the long progressive path of biting, we should be on the lookout for those signs and gestures and learn to interpret them. Horses will eventually tell us which bit best fits them.

- 1. POLL
 - 2. BRIDGE OF NOSE
 - 3. TONGUE
 - 4. PALATE
 - 5. BARS
 - 6. CORNERS
 - 7. CHIN GROOVE
 - 8. THROATLATCH
- INTERIOR OF MOUTH**

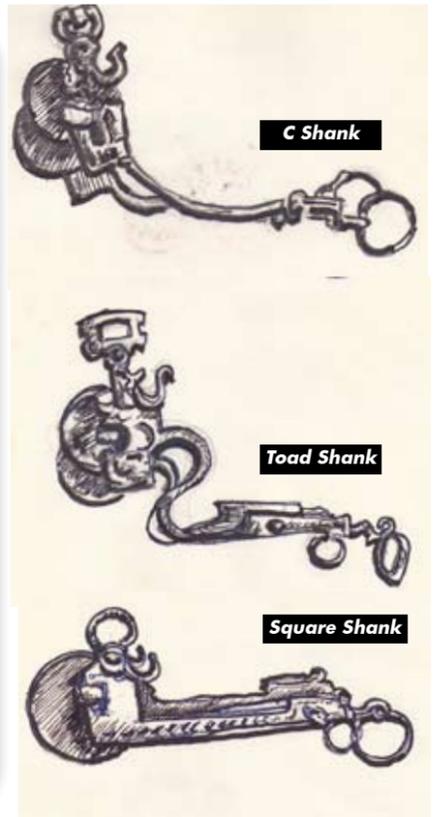


Notes:

***Authority** = Refers to the force that a bit or components thereof may exert on a horse's mouth and consequently affect posture, gait, behavior and/or attitude.

****Action** = Refers to the moment that the bit begins to perform. Full action normally takes place when the shanks reach an angle of 45° from the outline of the mandible or lower jawbone. Action and authority are closely related to each other. The more "authority," the faster the "action."

*****Tempo** = Refers to the time a bit will take to reach the point of action, from the moment the rider pulls or "activates" the reins.



C Shank

Toad Shank

Square Shank