

# Front End Conformation

An Analysis by [Lee Ziegler](#)



While the conformation of the forequarters of a horse will not guarantee which gait he performs, it will determine how he does it. Reach, high action, and "scope" of motion are determined by the length and angulation of the shoulder and humerus, and the overall balance of the horse is affected by the length and attachment of the neck. A "good shoulder" for high action and short steps in a Paso Fino will not be the same as a "good shoulder" for long reach in a Fox Trotter or a "good shoulder" for a horse which is expected to take long steps and display the ability to "fold" the front legs at the knee.

For a horse that is expected to work in Paso Fino gaits, a rather upright but long shoulder and a short upright humerus will provide the ability to take high, short steps. For a Fox Trotter, a more laid back shoulder, approaching 50 degrees, and a more horizontal humerus, approaching 30 degrees, will provide the ability to take desirable long, low steps in front. For a pleasure type walking horse, or a Peruvian Paso, a laid back shoulder of about 50 degrees and a slightly less horizontal humerus than ideal in a Fox Trotter will provide scope of motion, allowing for a long, but higher step in front. For a racking horse, or a more animated type of Walking Horse, a long shoulder which approaches 50 degrees and a long slightly more upright humerus will allow for both a long step and high action, folding at the knees in the front.

If the humerus of a horse is conformed so that the point of the elbow lies directly below the crest of the withers, when the horse is posed with front cannons vertical, he will usually have both forward reach and the ability to fold at the knee. A humerus conformed so that the elbow lies in front of the crest of the withers inclines a horse to a shorter step, and a steep angle to the humerus, more than 30 degrees, combined with this short length will cause short, high steps. If the point of the elbow lies behind the crest of the withers, and the humerus is virtually horizontal, the horse will take very low, long steps.

The conformation of the neck also effects gait performance, but does not determine it. A horse with a short neck set on low, but carried high (so that there is a noticeable dip in front of the withers and outward bulge under the neck) will be more inclined to do a high action gait in some ventroflexion (hollow body position) than one with a neck set on low and carried low. A horse with a long neck, set on high, and carried high, will be more inclined to take a longer, high action step in front than a short necked one. A horse with a long neck, set on at a moderate height, and carried at a medium height is more inclined to a lower action gait, and may be more inclined to a slightly longer stride in his gait than the short necked horse. ( A relatively long neck measures the same from poll to withers as from withers to lumbo sacral junction -- the neck being the same length as the functional back.)



Front End One

In this picture it is easy to see the shoulder and humerus angles, as well as the top of the withers. The vertical front cannon bone is also a plus. This horse has the most laid back shoulder angle of the three horses in the group. At about 58 degrees, it does not incline strongly to a long step, but it does offer more possibility for that sort of sweeping stride than the shoulders of the other two horses.

The humerus of this horse is moderate in length and in angle, not overly upright or horizontal. The neck is somewhat short, and shows evidence of work in a ventroflexed gait in the slight outward bulge on the underside. This horse will not have high action, or extremely long, low reaching motion in the front legs. This conformation does not rule out any of the easy gaits, and any gait done will be of moderate style, without being particularly flashy.

A deep heart girth indicates that this horse ought to have adequate stamina and comfort in gait to provide a rider

with many pleasurable miles on the trail.



Front End Two

Although it is hard to tell much about the exact proportions and angles of this horse's shoulder and humerus from this angled shot, some characteristics do stand out.

Of the three horses here, this one has the steepest shoulder angle, and the steepest and shortest humerus. That, in addition to high neck carriage, incline the horse to short but very high action in front.

This is most likely a very flashy mover, with a gait preference in the rack family. I imagine that the gaits this horse does are very impressive in a show environment.



Front End Three

Again, a less than ideal pose makes it a bit difficult to see the exact proportions and angles of the shoulder and humerus of this horse.

However, of the three pictured, this one has the longest and most horizontal humerus in the group. The shoulder is also long, not as steep as horse #2, but not quite as laid back as horse #1. The neck appears short and set on at a medium height.

This horse most likely takes a long, low step in front, with no high action in the knees. If this horse does a gait in the rack family, it is without much flashy motion, but in other gaits the horse would have good ground covering length of stride in the front legs.

The humerus angulation and length would make for a very desirable motion in the fox trot, if that gait is in the horse's ability, and for a good, trail type running walk as well. IMO, the horse appears a bit back at the knee, and could benefit from a slightly less "low heel, long toe" foot trim to complement and reflect the conformation of his shoulder.

All together, the conformation of the front end of a horse should enhance the gaits he is expected to do. A low headed, long shouldered horse with a horizontal humerus will not be able to perform Paso Fino gaits well, but he might be a dynamite Fox Trotter. A horse with a straight shoulder, short vertical humerus and short high set on neck might not be able to fox trot very well, but he can probably do a very good corto or largo. And, a horse with a long, laid back shoulder, long but not horizontal humerus and high set on, long neck might not have long stride in a fox trot, but he will have motion and action in front and the ability to reach out and fold well in a rack or running walk.