

Conformation for Performance

Haydon Horse Stud has established a firm breeding selection regime with emphasis placed on temperament, lightness, mouths, conformation, an athletic hindleg set and action. The emphasis is to breed horses that will perform at the elite level. In a nutshell we look for a quality horse with an intelligent head, a good correct flat forehead, a sloping shoulder, a light front, straight legs and an outstanding forward stifle set with a powerful, deep hindquarter.

The main attributes looked for in the complete balanced horse are;

- A good head with a flat forehead, a big, kind, soft eye to achieve the required temperament
- Correct conformation with scope
- Lightness on the lead and a responsive light mouth
- The placement of the hind leg with a strong, forward stifle essential to the ability of the horse
- A correct, light, smooth, effortless, comfortable and neat action completes the picture.

It is a very fine line breeding a performance horse that is trainable, co-operative and who wants to be with you but at the same time has the character or that special “**X Factor**” to perform at the highest level. Emphasis is continually put into achieving the right balance between the horse that is just too docile to one that has too much energy, which takes years longer to train and may even then not make it. The “**Champion Horse**” has special characteristics and the genetics from these champion horses are widely incorporated in the breeding programme.

To fully expand and examine all the points of conformation would take volumes. However, below is an explanation of some of the most important considerations.

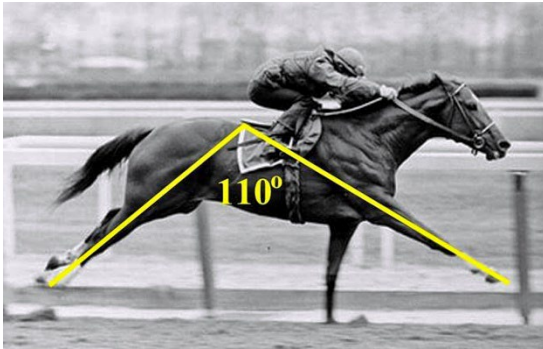
The Front

The head can tell you so much about the horse. It should be attractive, alert and intelligent. The forehead should be wide and spirit-level flat, the eyes should be big and kind, with wide, broad nostrils. The opposite and to be avoided is a long narrow head with a bulging forehead and small mean eyes. The teeth should meet evenly with no under or overbite. The jaw should be in proportion and not too heavy or wide, with a fine, clean gullet. A good indication of width is that you can fit your fist in between the jaw bones, allowing plenty of room for breathing and the windpipe.



The neck should be a good length, not too heavy, not ewe shaped, more swan shaped in outline. This automatically puts the horse's head in the correct position and does not need the bridle to get it where it should be, it is just naturally there in the right place. There is an old saying that you want the horse to look over the fence not under it. The neck should be set well into a good sloping shoulder with the points of the shoulder up. The more the slope the more a horse can extend its front leg range. Importantly it means the horse can also really walk along.

Secretariat is one of the all-time great performers, winner of the American Triple Crown and still holding the fastest time in history for all three races. He won the Belmont Stakes by 31 lengths. His stride angle was 110 degrees. Every one degree increase in stride angle means an increase in stride length of 2%. In other words, a 10% increase means 20% more ground is covered.



Secretariat measured a stride angle of 110 degrees.



Secretariat- head shot.



Secretariat as a weanling showing the V shape between the front legs.



Secretariat is often used as an example of a “near perfect” conformation which produced the fastest times in history.

From the front there should be a good V shape between the front legs with a light front. A wide, heavy front with straight shoulders makes movement very heavy and restricted, pounding the feet into the ground. A horse with a light, athletic front that moves easily is such a pleasure to ride.

Structurally if you drop a plum-bob from the shoulder it should touch the front of the horse's toe. A shoulder slope of 45 degrees should match the front pastern slope of 45 degrees. The shoulder should be crafted nicely into a prominent, wedge-shaped wither which makes the saddle fit well. Interestingly, cattle have wide, gaping withers that do not connect at the top. It is very important the elbows have enough width out from the girth, not being too tight or close. A good guide is that you can fit your fist in the gap. This means the horse is not restricted and saves girth galling. Tight elbows and heavy fronts are undesirable traits.



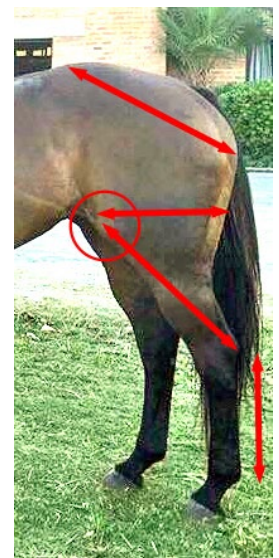
The forearm needs to be long and the cannon bones short and flat. A horse with shorter cannons can pick their feet up and are not daisy cutters. The pasterns should be not too short or straight and not too long and weak and set at 45 degrees, as they are the horses shock absorbers. The knees need to be straight from the front, not crooked or offset. From the side they should be in a straight line down not back or calf kneed or over bend. The legs should be straight with the feet following in a perfect line not turned in or turned out. Deviations should be avoided as well as horses swinging their legs when moving. A straight line is so much stronger when the pressure is applied, eliminating weak spots, helping with soundness and longevity. Feet should be well sized as small feet are less capable of diffusing impact stress.

The Back

The length of the back needs to be in proportion, with a short back restricting movement and a too long a back causes weakness through the loins and the undesirable “roach back” or sway back. The coupling is very important for athleticism, having enough slack for the horse to move freely, not jammed up and tight. The ribs should be well sprung and rounded, transferring saddle pressure away from the spine and not be slab sided.

The hindquarters are so important and must have the right athletic setting, power and shape to allow the horse to perform at the top level. From the side view the rump should be long and strong with the hocks close to the ground with short cannons. The hindlegs should not be too straight or sickled hocked with too much bend. The longer the distance from the stifle through the gaskin the better, giving the stifle more power. It is just so important having a forward setting of the stifle which when moving comes well in front of a perpendicular line from the hip. This allows a longer reach of the hind leg and a the longer the overreach of the front foot imprint when walking the better.

Cuartetera, has been rated as one of the best polo horses of all time, playing in the world's fastest and highest rated polo, by the world's best player Adolfo Cambiaso. Her clones have also performed at this elite level. She has an incredibly athletic and powerful hind end as shown in the photo. The top line shows the length from the croup back to below the tail, the next line shows the length and power back from the from the stifle and the circle shows the forward set stifle. The sloping line shows the length to the hock, which is nice and close to the ground with a corresponding very short cannon bone. It all means *wow how athletic* ! It has allowed her to perform all those incredible



feats, using the hindleg at pace, for stopping and turning, outperforming her competitors.

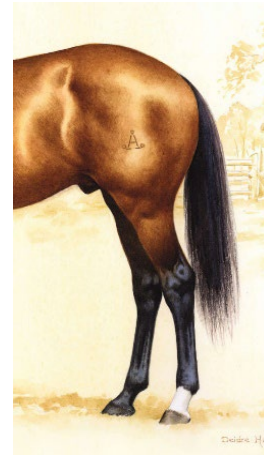
Below are the hind quarters of Cuartetera, her dam champion mare Lambada and for comparison the ASHS drawing.



Cuartetera



Lambada-the dam of Cuartetera



ASHS Drawing

When you stand behind a horse it is preferable that the rump is actually wider at the stifle than the hip, showing the power has been extended well down. The photo shows the strength through the stifle and gaskin from the rear view. This means there will be sufficient width between the hindlegs, not narrow and pinched in. The hind legs should have a straight trajectory when moving. For athletic horses it is deemed preferable for the hocks to be slightly "in" which means the placement of the hind feet will be out a little more, creating more spread and distance between the hindlegs when working. This creates a tripod effect which is preferred for stopping and turning at speed. The opposite is a horse that is "out" at the hocks and has a screwy, wobbling action with little ability. The placement of the hind feet will be closer together with less spread. With the hocks screwing out, a narrower base is formed, with a loss of hock power and athleticism.



Haydon Pandora a mare who could really operate on her hindlegs at pace, showing the width and muscle through the stifle from behind being slightly wider at the stifle than higher up at the hip.

All these hindleg traits are not really noticeable or have an impact at slow speeds. It is at top speed that they come into play and sets the elite horse apart. They have that extra pace and that extra ability to stop and turn at speed. Often horses will try but they are physically incapable of performing the feat, especially when asked to do so at full speed. An example is a horse may try to

stop but physically just cannot do it and will have to run on. A simple test is to lunge the horse at a canter around you in a tight circle. The athletic horse will do it easily, showing off that inside stifle at work.

Hindleg Movement

When moving, the horse with the forward set stifle, will have the stifle move well in front of a straight line drawn down from the hip. The further forward the better and the more athletic. In this example of Ellerston Ruski taken as a two-year-old, the right stifle is well in front of the line when cantering and the hind leg is actually still back, so imagine the reach it will have when it comes fully forward. It has the advantage of already being naturally set in a forward position.



This forward set stifle with its long extension can be seen in many different champions when they are performing at full speed. In fact, it is one of the factors that actually lets them be better than the rest and to achieve their legendary status.



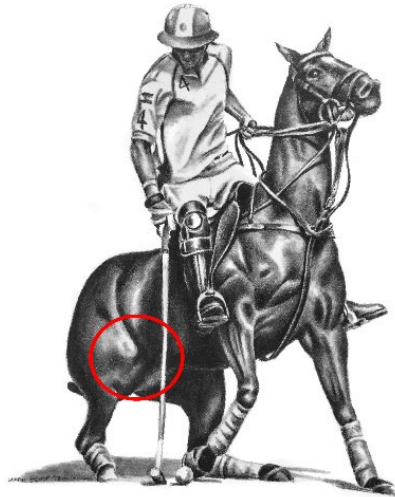
Black Caviar 4 times World Champion Sprinter, undefeated in 25 races including 15 Group Ones.



Winx winner of 37 races, including a world record 25 Group Ones.



Makybe Diva the only horse to win 3 Melbourne Cups



Haydon Angel Jewel (Mia Gatita) known worldwide for her amazing stopping ability, her pace, the use of her hindlegs and the longevity of her career. The Hall of Fame mare is the only horse to win every major polo tournament in the world, played by 10 goaler Adolfo Cambiaso. Here she is answering the call to stop with the ball from high speed. To do so her stifles have come so far forward her hocks are on the ground. Her sire Australian Champion 3-Year-Old Drawn, could also stop like this.

Putting it all together in Practice

This photo of Ruski mare Haydon Diamonte was taken right at the top of a mountain range. She climbed up there easily, navigating well the steep pinches, could continue to do it all day and gave her rider a comfortable, non-tiring, effortless ride. She displays the practical traits of a riding horse to facilitate this. She is alert and follows the tracks. She has scope and softness. The saddle sits nicely, with the girth well back from the elbows, enabling free movement and no girth galling. The nice length of back softens the ride, insulating the rider. The sloping shoulder with the points well up, the light front and the length of rein means she can walk along 100 km an hour. The big loose, forward set stifle and rump power gives her plenty of forward propulsion and hindleg reach.

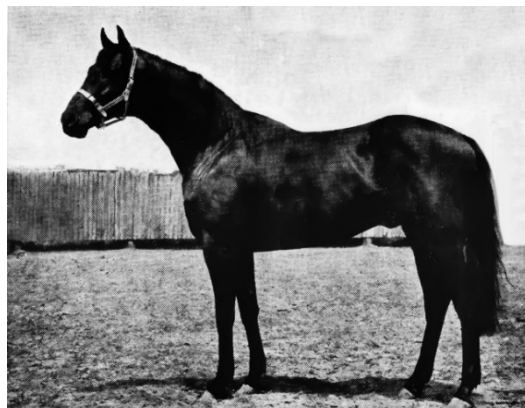


Overall Conformation relating to top Performance

Below are examples of horses whose conformation has meant they have been top performers in various disciplines and have passed their traits onto their top performing progeny.



Norman Pentagon one of the world's top polo sires, athletic, sleek, a light front which is nicely up and with hocks close to the ground.



Never in Doubt a son of Nearco, is up in front with a light front.



More Than Ready by Southern Halo is the sire of the most winners in history. He has an incredibly powerful, and forward stifle when he moves.



Samaready by More Than Ready, a much admired type and Group 1 winner. Dam of Golden Slipper winner Shinzo and Magic Millions winner Exhilarates.



Legendary performer and sire Nearco.



Breed shaper Northern Dancer a grandson of Nearco.



Haydon Angel Jewel won every major polo tournament in the world.



Legendary campdraft mare Breezette



Haydon Eve could plant her hindlegs and do continuous 360-degree spins.



Haydon Dunkirk using his hindlegs in polocrosse.



Wickford Santa Fa showing hindleg strength and power.



Top campdraft mare Hazelwood Romance.



Her sire son Hazelwood Conman showed such natural ability chasing cattle. He is stretching out here to quickly claim the steer.



The cutting is one discipline where the horse needs the head low but still must have an athletic and powerful hind quarter. This is quarter horse stallion The Boon, getting down and working at cow eye level.



Gigolo FRH one of the most successful dressage horses showing great collection and head carriage.



Red Rum won a record three Grand Nationals, one by 30 lengths. He was renowned for his jumping ability, having not fallen in 100 races. What a painting of his stifle.