



## Understanding Standardbreds

### A Lucan Lodge Rider Guide

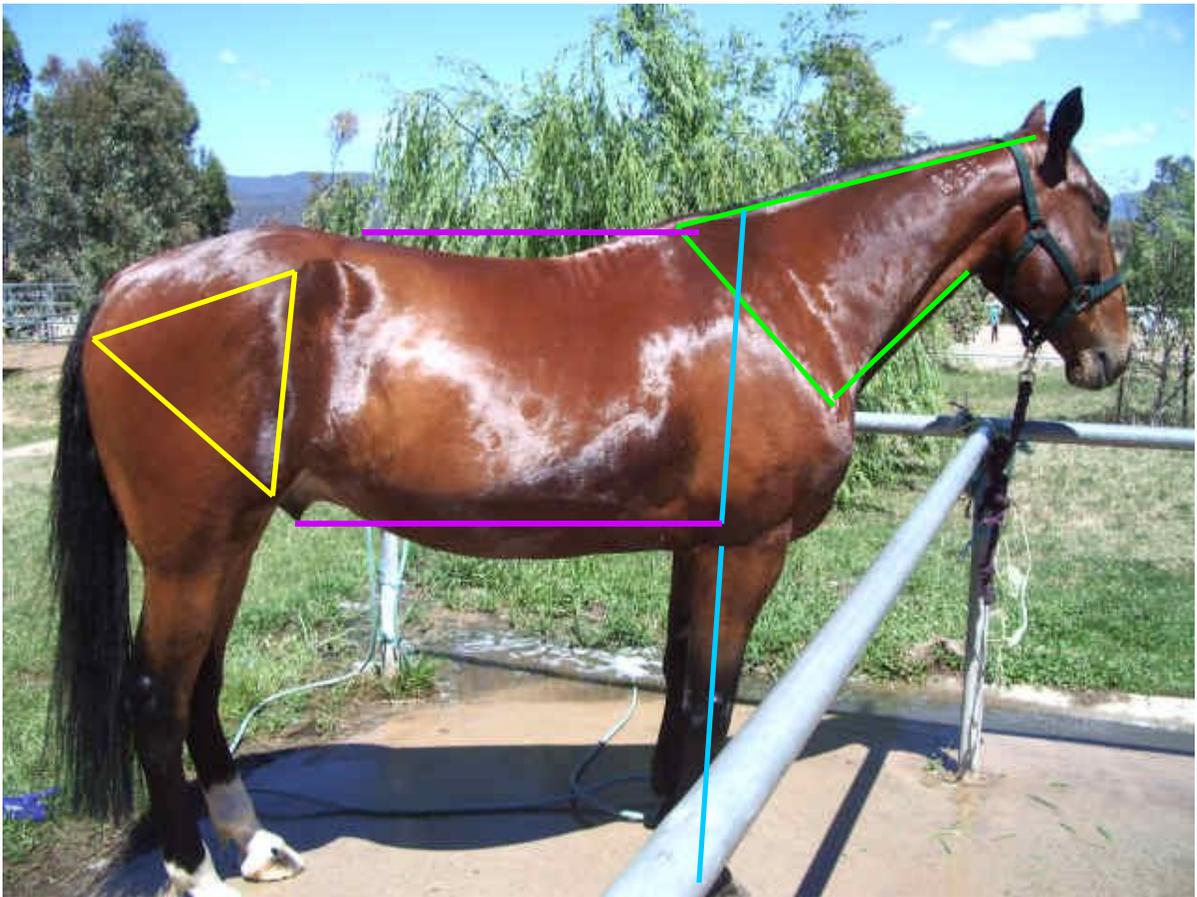
Standardbreds make excellent ridden horses, with their gold plated temperaments and strong, athletic conformation. They are becoming more popular as riders realise their versatility, but there are some special traits they have that should be taken into account for their training, retraining and general management, to make sure they and their riders get the very best out of each other!

### Understanding Conformation

Standardbreds have been selectively bred for their good bone, as well as deep flat hindquarters and sloping shoulders. These conformation traits give them lovely floating, ground covering action, but have some implications for other activities which should be understood by anyone interested in training or retraining.

The following photo report gives a picture and a description of classic Standardbred features, with a discussion of the effects of these conformation traits on athleticism:

*Photo Report:*





**Green lines:** The length of rein and shoulder are important to athleticism and ride quality. The top line of the neck should be about twice the length of the bottom line, with a shoulder slope of 45 to 50 degrees. Standardbreds should have a more sloping (and narrower) shoulder than horses used for high-action sports like jumping, to allow for increased forward swing of the front legs to cover as much ground as possible. This extra extensibility, though, comes at a cost of reducing the potential for elevation of the knees, as in jumping and collected flat work. They also tend to have a deeper and lower set neck, further reducing their aptitude for elevation of the forehead and rebalance of weight onto the hind legs. Overall they are more fast and free-moving than they are powerful and uphill.

**Blue lines:** The vertical balance is important, with the heart depth ideally the same as the length of the legs. This ensures the horse has sufficient respiratory capacity for performance. Standardbreds usually have shorter legs than thoroughbreds, and their legs must have sufficient bone, muscling and straightness to handle high performance into their teens (14 is the mandatory retirement age for harness horses, and they race from 3 years old).

**Yellow lines:** The hindquarter is essential for forward and active movement. The lines from point of hip to point of buttock and stifle should show a deep, level hindquarter. Standardbreds should have a flatter pelvis (line from point of hip to point of buttock) to allow for increased forward thrust of the hind feet under the body. The croup is ideally higher than that of a dressage horse, for example, and the muscles of the hindquarter should be long and heavy. The haunches overall are built for extension, not collection.

**Purple lines:** The horizontal balance is important for athletic ability. The topline should again be shorter than the underline, producing a strong back and long stride length. Standardbreds should have a longer bottom to top line ratio than saddle breeds, and a higher croup.



**'Hambletonian': the original Standardbred**

The higher croup is another conformation feature of Standardbreds.

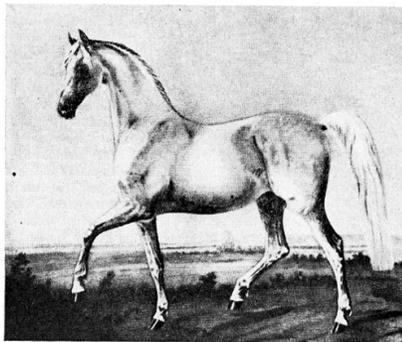
Coupled with the flatter, longer hindquarter, it contributes to the forward reach of the hind legs, helping the Standie cover maximum ground.

Hambletonian was actually 2 inches higher at the croup than at the wither!



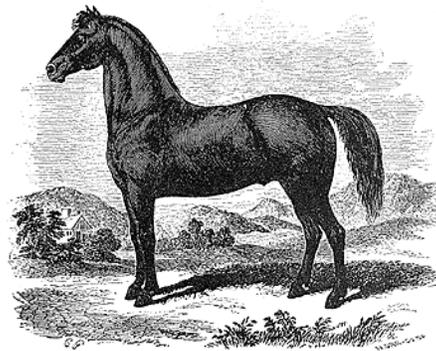
The Standardbred ancestry includes Thoroughbreds, Morgans, Hackneys, Cleveland Bays, Arabs, Barbs and specialised trotting and pacing breeds that were available in the US during the time the breed was being established (around the 1850s). The Foundation sire of modern Standardbreds was a horse called 'Hambletonian 10' (picture below). These days, the majority of Standardbreds can trace their ancestry back to this sire. He apparently had 1,300 offspring! Most Standies are linebred (inbred within the first five ancestral generations), with trotters tending to be more highly inbred than pacers.

**THOROUGHBRED**



Messenger, the great progenitor and founder of the American Trotting Horse. Bred in England, 1780.

**MORGAN**



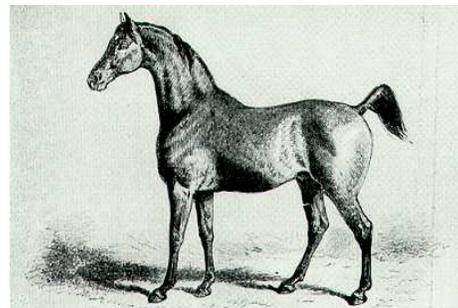
JUSTIN MORGAN

**CLEVELAND BAY**



CLEVELAND BAY

**HACKNEY**



There is no single, consistent breed standard, as these horses have not been bred for aesthetic traits as much as for performance traits. With their mixed ancestry, and the original breed requirement only being that they be able to trot a mile in under 2 and a half minutes, the size, colour and appearance of Standardbreds can vary widely. Standardbreds are mainly bred based on performance records of their ancestors (genotype). However, when they are bred for phenotype (appearance), horses are selected with straight legs, good bone, oblique pelvis and shoulders, length of body, depth of chest and good height of croup.



*Hambletonian. The Thoroughbred above is his grandsire, Messenger.*



## Understanding Temperament and Behaviour

Standardbreds have certain behavioural characteristics related to their breeding, race training and race management that can impact their future development. Their breeding tends to make them more trainable than many other breeds, while their race training can have helps and hindrances to their next career. Previous management during their racing life can be a bigger problem, as they often have long term pain effects from inappropriate nutrition, as well as acute and chronic injuries. Pain is a major roadblock to training, and certain kinds of pain should be looked for in retired Standies, and resolved before much training is attempted.

### Breeding

- Standardbreds have been selectively bred for calmness as this provides an advantage in a strategic sport which involves deceleration as well as acceleration, in a threatening environment.
- They may also have genetic advantages for responsiveness as success in their sport relies on reins and whip only as a communication method
- Despite being bred for calmness, horses with a genetic predisposition for active HPA axes have performed well in harness, as racing requires extreme exertion. The HPA axis is associated with athletic performance, but often also associated with anxiety and hyper-reactivity. Standardbreds usually have an exercise-conditioned HPA axis, with less of its related 'fizziness'.
- Standardbreds are also bred for HPA *adaptation* (returning to normal energy and hormone levels quickly) as racing requires concentration and control of speed and direction: they need to be able to control their metabolic 'booster'.
- There is some evidence that horses bred for racing learn more slowly than horses bred for other disciplines (a 1980 study by Mader and Price showed that Quarter Horses learned faster than thoroughbreds, and selective breeding for athletic rather than trainability factors may be the cause).

### Training

- Building on their natural tendencies, harness horses are trained to activate and adapt to the HPA axis through systematic physical conditioning.
- They are handled frequently and thoroughly, and are often 'bombproof'.
- They are educated to stand still, and be controlled by rein, whip and voice
- They have been carefully and thoroughly trained to trot or pace, which can have implications for retraining. There is more discussion of this below.
- They have usually been worked in blinkers while racing, so will need to be desensitised to seeing what is happening beside and behind them. Stirrups will be new too, and need to be introduced carefully.

### Management

#### *Feeding*

- Racehorses are fed for performance, with high protein and sugar diets. Standardbreds need extra protein to rebuild their muscles, even more so than Thoroughbreds, as they train more intensively than gallopers.



- Like Thoroughbreds, harness horses are fed to minimise the weight handicap of excess fluid in the large intestine as associated with feeding roughage (each kg of roughage holds 6-8kg of water, and according to one study, an extra 23kg of weight can slow speed by 0.64m/second). As such, they usually have a higher intake of concentrates than is ideal during their racing career.
- This often has serious and long-term consequences: up to 90% of racehorses tested in the UK were positive for stomach ulcers in one study – and these can persist after retirement of not treated actively.

### *Injuries*

- Travelling at high speed on flat ground around bends places extreme stress on the leg joints, because the legs must provide a lateral force as well as a forward force to ensure the horse continues to travel around the curve without drifting.
- Common injuries for trotters are to the fetlocks, as when they lean in to the curve their hindquarters drift outwards, resulting in a variance in width of the movement of the two diagonal pairs, and abnormal fetlock movement. The increased strain on the joints can have permanent effects, staying with the horse beyond retirement from racing.
- The most common injury diagnosis in poor-performing racers was interference-related (overreaching etc, 25%), then lameness for 20% (mainly forelimb, 75%), then sacroiliac pain (10%). Poor recovery, exercise induced pulmonary haemorrhage, respiratory infection or nasal discharge, gluteal pain, unilateral nasal haemorrhage and mouth injuries completed the list of the ten most common findings in one comprehensive study.
- Standardbreds commonly injure the hind leg suspensory, then the foreleg suspensory and the SDF. Standardbreds can also develop SDF hind leg tendonitis, which is rare in other performance horses. The contralateral tendon is also common failure point in racing Standardbreds, as is the proximal sesamoid bone (for fractures). Carpal lameness is quite common.
- The risk of lameness has been shown to be affected by the trainer variable, by sex (geldings had a higher risk), by lower conditioning (horses had more risk of lameness after < 3 months' training than after > 3 months' training), and by racing (the risk of lameness was higher in the 5 days after a race).
- Trotters usually sustain less injuries than pacers, despite having a longer racing career on average, as their work is less intensive and they tend to have more spelling time than pacers.
- Helpfully, Standardbreds are at much lower risk of injury than thoroughbred racehorses, and have a better prognosis for soft tissue injuries, as trotting or pacing have more even weight distribution than galloping.
- Females are usually retired sooner than geldings, because they are viable for breeding as an alternative to persisting at racing, with a resulting reduced risk of injuries and their long-term effects. There is a 50% increase in risk of musculoskeletal injury when horses are brought back to work after spelling for a previous MSI.
- This all means retired mares are usually sounder than retired geldings, and trotters are usually sounder than pacers. And ex harness racers will usually be sounder than ex gallop racers – so a retired trotter mare is a great option for your next OTT!



## Understanding Retraining

Trotters or pacers from the track will usually need to be started under saddle. The process is the same as for any horse, with some special considerations.

On the down side:

- You will be beginning later than most horses start to be ridden, often after two or three years' racing. This has some advantages, in that the horse will be stronger through the back, but also has disadvantages, as Standardbred gaits get better and better developed and more consistent with age. This can make retraining that locomotion and musculature more difficult.
- Another disadvantage is that an adult horse that has been intensively training will have a different muscle composition than one who has been used for lighter duties (training develops more glycolytic muscle). Glycolytic muscle is the kind that is associated with soreness in racehorses, so OTT adults may have more pain issues than non-racers.
- Young horses also appear to learn new skills more rapidly than older horses.

On the plus side:

- Standies will already have had lots of experience being handled, tacked, lunged and driven, and may respond well already to voice commands. This makes the starting process quite a bit easier than with a young green horse who must be trained to accept all of these things before being backed.
- One study showed that starting jumping training early, as opposed to late, had no long term effect on jumping ability, so getting a 'late start' may not really be a detrimental factor for athletic excellence in a ridden discipline.

## Special Note: Pacing



Pacing is the lateral gait that harness horses often display. Some horses have a higher natural inclination to pace than others, and pacing is faster than trotting, and more consistent, so tends to be more popular with bettors. It can be detrained for a saddle horse, but this can take a bit of patience. To start with, the horse will tend to default to a pace as that is his natural tendency, and it has been reinforced through



his training. However, working on small circles and on bends can encourage the trot, as it will be much easier for him to balance than if he were pacing. The small circles can become larger and larger, and the straight lines between the bends can become longer and longer, until the trot is well established. Keeping enough impulsion is important, because once in a trot the horse can only change to a pace if he hops or stops. Keeping each back leg activated with a properly timed forward driving aid during its thrust phase will help keep the trot going. Putting heavier shoes on the fronts can help to break the lateral pacing rhythm, too.

Cantering can be difficult as well, as if you ask for a canter by asking for more speed on the straight, the horse will default to trotting or pacing bigger, as that is what he has been trained that 'speed' means. On the flip side, if you ask for canter by half halting, collecting and engaging the hind quarters, you may find that the horse does not have enough strength in the back legs to achieve a strike-off. Remembering that the Standie has been bred and conditioned for extension, not elevation, and a strong front end, not a strong hind, it is important not to overburden the hindquarters. Therefore, the horse should be kept more on the forehand while he begins to develop the pushing power of the outside hind to take him from trot to canter, and only later rebalanced onto the haunches.

So, to begin work at canter under saddle, it is helpful to first train the horse to reach down towards the ground with his neck and seek a good comfortable bit contact. Once he can travel at a trot on a circle in this long, low frame, he can be asked to speed up his trot, still with his head low, and still on a smallish circle (10 to 15m). Horses automatically select the speed and gait that is most metabolically efficient for the conditions (that's why they like to canter up hills instead of walking – even though it seems like it must be more effort, it is actually easier), so when the circle gets demanding enough he will tend to 'fall' into a canter instead. If he just trots faster instead of cantering, slow down and try again. He should be allowed to canter several strides and then brought back to trot, to prevent too much excitement or discomfort developing. You need to take little steps at a time, as this action is difficult enough for a Standardbred's hindquarters conformationally, let alone with a full person's weight on them.

Remember, a harness horse may expect to be punished for trotting or cantering, so be prepared for hyper-reactivity (flight behaviour) the first several times you try it! Be ready to praise and reward as soon as you get the new desired response, to help reinforce the new behaviour. And never punish the horse for pacing – you can't change the rules that suddenly, and make what used to be a praiseworthy response suddenly a crime. This will cause conflict and confusion, likely triggering the flight mode and generating more problems than it resolves.

### **The Last Word**

Overall, Standardbreds make excellent saddle horses, even after racing for some time. With proper understanding and consideration of their conformational strengths and limitation, and the residual effects of their prior training and management, they can be extremely rewarding to re-educate and own. They really can do anything: from 'Halla' winning showjumping gold at the Olympics to 'Jo Pa's Tycoon' performing Prix St Georges, there are plenty of role models to choose from!



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