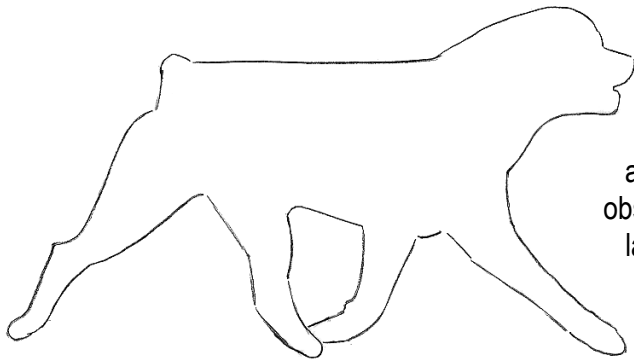


# The Structure and Locomotion Correlation in the Rottweiler

By Steve Wolfson

**“Exemplary gait is the result of exemplary structure.”**



Watching a judge request an exhibitor gait their Rottweiler around the show ring, I noticed that the exhibit had no reach and drive; its front reach was short and its rear drive had little push or power. To me, there was an obvious incongruity in its construction. A closer observation revealed a steep croup angulation and shoulder layback that was only sufficient. Nonetheless, the judge said for the critique “Free flowing movement”. Apparently, the judge and I had a difference of opinion.

Correct structure is correlated to superior locomotion in that, “exemplary gait is the result of exemplary structure.” To understand this correlation, it is important to consider these topics separately. (Note: The study of structure and animal locomotion are scientific disciplines. For this essay, much is simplified for ease of understanding.)

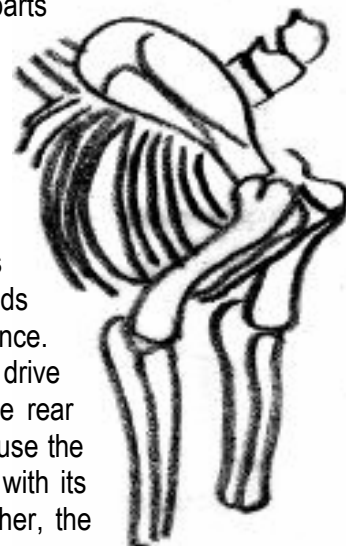
## Structure 101

A newly built house must have structural integrity. Walls must be plumb, materials used in the construction must have strength to withstand wear and tear, and all parts must work. These same principles apply to Rottweiler structure. In the standard, the structural blueprint of the Rottweiler, are ratios, measurements and proportions for skeletal anatomy so that breeders can maintain breed type, temperament, and structural symmetry. Front and rear legs must be balanced, strong and straight, the back must be firm but flexible, angulations must be ample enough to support proper reach of the front and drive of the rear and shoulder layback should be well placed. There should be symmetry and harmony in the working parts as well as a defined amount of muscle mass to support the skeletal frame.



When imbalances occur between the parts of the skeletal anatomy, it creates impedance and forces the dog to make physical compensations, which disrupt gait. For example, in the opening paragraph of this essay, the dog in reference had a steep croup angulation. Instead of extending the rear feet to its maximum distance and showing the rear pads in the upswing, the dog did not show his rear pads and could only extend his rear feet a minimal distance. Because of its incorrect croup angulation, rear drive was absent. In essence, the dog's push from the rear

was short and shallow. In the front, there was a similar problem with reach. Because the angulation of the shoulders was not great enough, the dog could not reach out with its forelimbs and extend. Instead, the reach was short and shallow. Working together, the



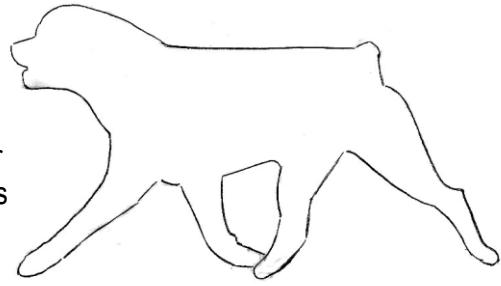
front and rear assemblies produced a stride that was inadequate and not free flowing.

Another example of a structural problem, often observed in our breed, is inadequate shoulder layback. The standard specifies shoulders “well laid back”, yet many Rottweilers today have insufficient shoulder angulation. Dogs with this problem have their front reach limited by poor shoulder angulation. As the shoulder blade rotates forward, it shortens the length that the upper and lower arms may extend. This is called the “arc of momentum”. Dogs with straight shoulders have a shallow arc. In essence, the more shoulders are angulated, the farther the reach. Conversely, the less shoulders are angulated, the shorter the reach.

## Locomotion 102

The Rottweiler’s original function was that of a cattle drover where the most efficient mode of travel was the trot. For this work, the Rottweiler needed to twist and turn, quickly adjust speed and keep up with the herd. Keeping up with the herd required good sound structure. When a Rottweiler’s construction is correct, according to the architecture of the standard, it can **cover the most ground with the least amount of effort** in an **unrestricted harmoniously flowing powerful gait**. To see this style of gait demonstrated in a Rottweiler is exhilarating and inspiring. All the parts of the dog fit harmoniously together and produce exemplary locomotion.

The best perspective to assess locomotion is to view the dog moving away, coming towards and in the side gait. When the dog moves going and coming, we assess its lateral displacement, which has influence on the lateral center of gravity. A correct front and rear assembly stabilizes the dog and prevents excessive side-to-side movement, similar to the effect of torsion bars in a car. Incorrect construction such as, elbows out, east-west feet, crossing over, moving wide and fiddle fronts etc., destabilize the center of gravity. These incongruities produce impedances, which require more energy, put stress on the bones and muscles and lead to fatigue.



In the side gait, we assess all the moving parts working together. Once in the trot and at a reasonable speed, not too fast or slow, the mechanics of the musculoskeletal structure are set in motion. Here, we observe reach, drive of the rear, spring of step, amount of ground covered, and temperament in the dog’s “willingness to perform,” another important element. Within the side gait, we detect many examples of locomotion from the exemplary to the unharmonious.

Occasionally, we encounter a dog that appears to be sound in structure when standing still, but during the examination of the side gait, it demonstrates a short stride of the front and rear legs, or a mix i.e., a correct front stride, but short rear drive. Problems may exist that do not easily reveal themselves. This is why gaiting in a small ring or by moving the exhibits once around does not do justice for a complete assessment. Adding to this mixture is a handler that pushes or cajoles the exhibit around the ring. Outwardly, the dog appears to have good construction and theoretically should gait correctly but does not. It has “no willingness to perform.” This is one example of how temperament plays a factor in gait.

The field of canine gait is complex and requires an adequate knowledge of anatomy, mechanics, breed type and purpose. It is important for the concerned breeder and student of the breed to gain proficient knowledge of these topics in order to understand Rottweiler locomotion.

### References

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2. The Dog in Action, Lyon, MacDowell, Howell Book House publisher, 1982