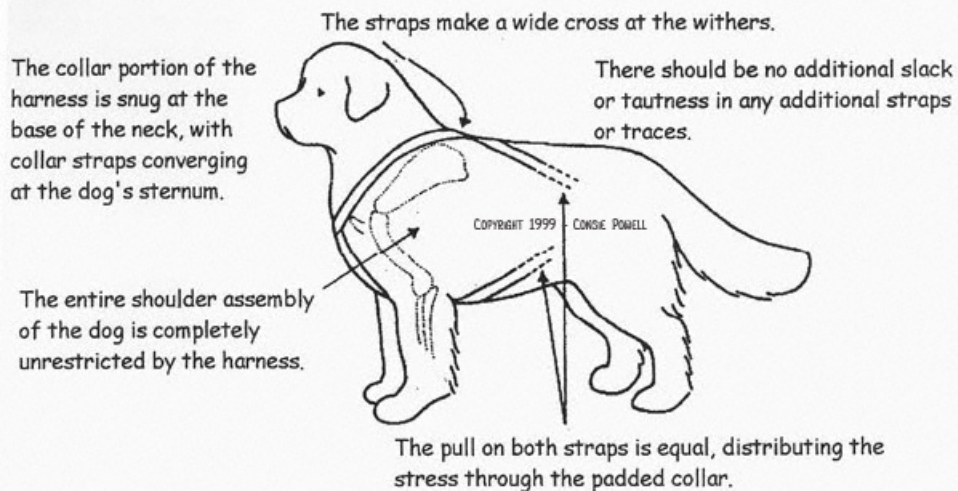


Draft Equipment: Understanding the 'Why'

by Sue Marino

Anyone can learn from an experienced draft person or literature how to fit draft equipment correctly, but do you know why it should fit that way? The most important reasons why it should fit correctly are efficiency, the use of energy exerted by the dog, and comfort for the dog. To understand why the equipment should fit correctly you have to understand the mechanics of how the equipment works in relation to the dog. When we harness and hitch a dog to a cart the dog exerts a certain amount of energy to pull the cart forward. If the equipment fits correctly it makes it easier and more comfortable for the dog to pull. Since the most commonly used harness is the Si-wash type I will use that as the example.

Harness



When a dog pulls it actually leans into the padded collar piece of the harness which rests snugly against the dog's breastbone on the bottom and over the shoulder blades on the top. The straps of the harness that connect to that neck piece tighten against the dog's body as the dog pulls. The tautness

of these straps goes all the way back through the traces to the point where the traces connect to the cart. This is called the point of pull, the place where the pull originates. If anything interferes with the way these straps work the line of pull will be altered which will make pulling harder and less comfortable for the dog. The line of pull could be disrupted by poor fitting equipment such as twisted straps, poorly fitted brake or belly band, brake placement, shafts that are too wide or too narrow, wrong harness size or a poorly balanced cart.

For example, if the harness is too small or large for the dog the collar piece would not lay against the correct points of the dog's anatomy so that the dog would be pulling but not comfortably or efficiently and not with a direct line of pull. If it were too big the collar would be over the dog's shoulder blades impeding their movement and if it were too small, it could ride up and choke the dog under the throat or the dog would be using its neck muscles to pull instead of the strong chest muscles. This is why it is so important to measure each dog for their own harness and not just use the same harness for all of your dogs. If the brake band were too tight and over the straps instead of under, it would hug the straps to the dog's side and break the straight line of pull causing the dog to pull very inefficiently. If it were too loose it could move around as the shafts move and cause chafing. The rear belly band is used just to hold the harness in place. It should fit looser than the brake band but not so loose that the dog could catch a foot in the strap. If too tight it is uncomfortable for the dog and impedes the dog's movement.

Be sure the brake and traces are adjusted properly so that there is no slack in the traces when the brake loop is snug against the brake. This way if the dog is going downhill the weight of the cart won't slam forward against the brake and push the dog and if going uphill the weight of the cart will not fall backward and pull the dog back. The weight should remain fairly constant if the brake loop is snug against the brake, the dog and cart move as one. Do not make the loops extremely tight over the shafts. If the loops are too tight and the traces too loose the dog will be pulling with the brake band and not through the harness which is very uncomfortable and difficult for the dog.

Shafts, Cart and Balance



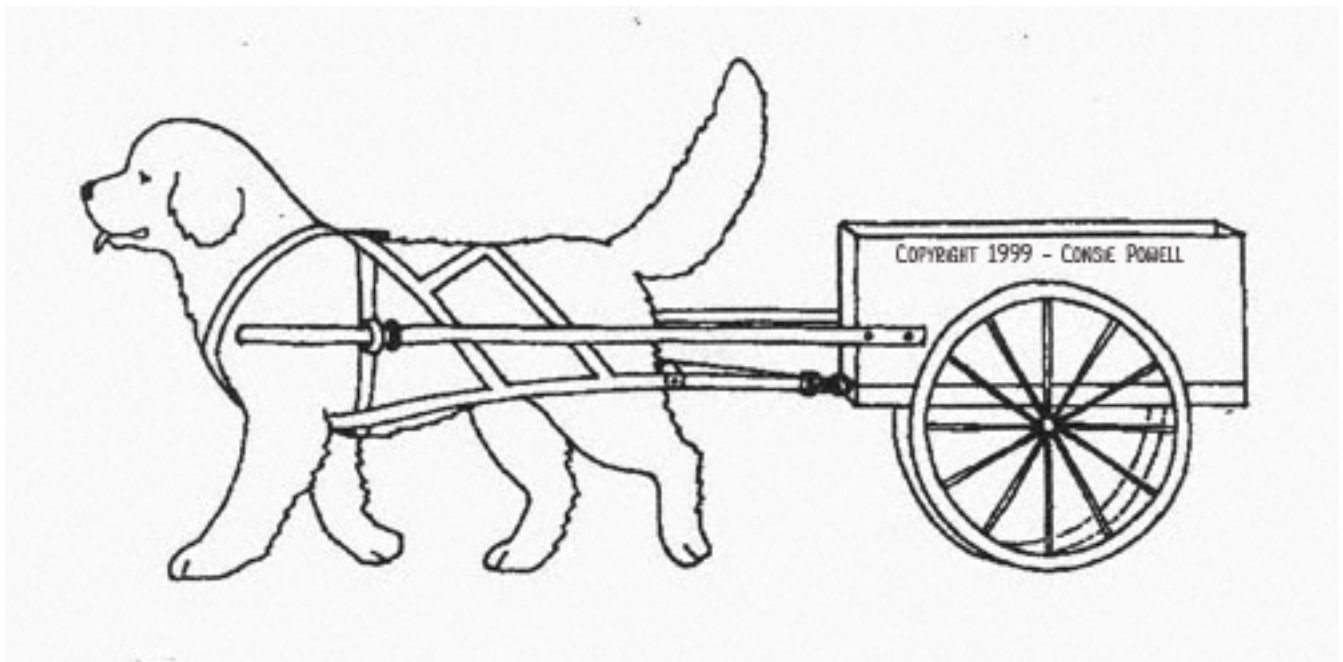
A well balance cart is very efficient. This cart has a straight line pull, nice center of gravity, and average size wheels which are usable on most terrain.

Be sure your cart is balanced properly. Some carts are unbalanced even when empty, especially those

that have heavy shafts. Use a light counterbalance in the back of these carts when working without a load to lighten the weight of the shafts on the dog. When a cart is loaded be sure the weight is placed in the cart so that the weight of the shafts are balanced, not too heavy on the dog and not too light. If the cart were unbalanced, too heavy in the back, it would cause the shafts to lift up and pull up on the straps which would interrupt the line of pull. If the cart were too heavy in the front it would cause the shafts to be too heavy

pulling on the brake band and press down on the dog's shoulders hindering its movement. Move the weight back to lighten the shafts and forward to add weight to the shafts. If you hold the front end of the shaft in your hand you should feel the same amount of weight in your hand if the cart is empty or full.

Not every cart can be used on every sized dog. Some carts can be used on different dogs with a few adjustments. You have to be sure the length of the shafts is correct for each dog. This can be adjusted by moving the brake on the shaft so that when the brake band hits the brake the front of the shaft is even with the front of the dog's shoulder. If the shafts are too long it makes it hard for the dog to turn, the shafts are in his way. If the shafts are too short, they can poke the dog behind the elbow when the dog turns. Be sure the shafts are parallel to the ground and not pointing up or down. Many times this can be adjusted just by raising or lowering the brake loops on the brake band. If the shafts are too high on the dog it interferes with the line of pull and the dog may try to duck under the shaft on turns. There are some shafts that can be turned to adjust their height. One other way to adjust the height of the shafts is to change the wheel size on the cart. Larger wheels will raise the shafts; smaller wheels will lower the shafts. The only other way is to make new shafts for the cart with more or less bend. The width of the shafts also may need to be adjusted for different dogs. Some shafts can be turned to be narrower or wider, others will need to be replaced or relocated on the cart. If the shafts are too wide, it can pull the brake band away from the dog's body and interfere with the line of pull and if too narrow it makes it hard for the dog to turn.



Dogs can pull with ill-fitted equipment, but they have to use a lot more energy and be uncomfortable doing so. These are the dogs you see that seem very unhappy about doing draft work. It is our job, as handlers, to be sure they don't have to work under such conditions. If we decide to ask our dog to work as a draft dog it is our responsibility to be sure they do so comfortably and efficiently.