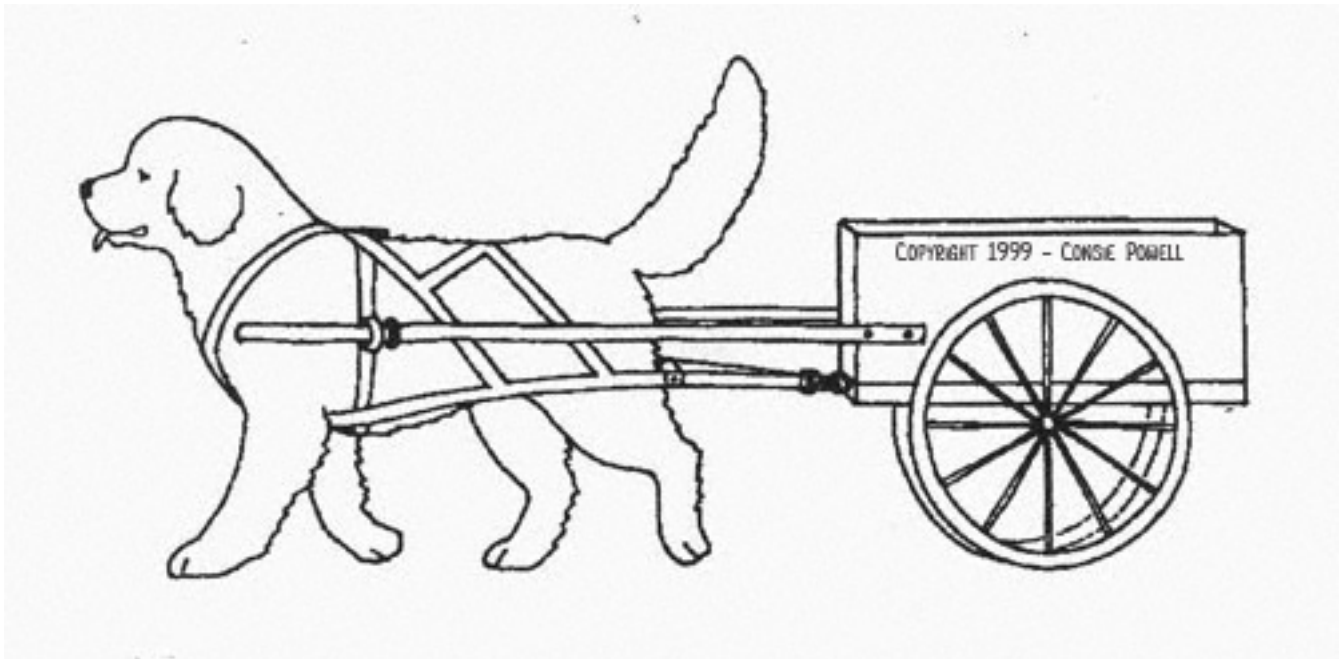


*Newfoundland Club of America*

# *Draft Equipment Guide*

*produced by the NCA Working Dog Committee*



## Introduction

*Draftwork involves teamwork between a dog and its handler. In this partnership the handler is responsible for choosing appropriate equipment for the dog to use to haul a load. A handler should not expect the dog to pull with an inappropriate harness or an apparatus that causes the dog to work harder than necessary to get the job done.*

*In a draft test, the regulations allow for an apparatus to be failed if it is not appropriate for the course. Before choosing to enter a test, it is the handler's responsibility to read the course description detailed in the premium list. The decision to enter should then be based on matching the course to be used and the equipment that is available to the handler. The Introduction to the Draft Test Regulations states that since a dog can perform draft work only in cooperation with a person, each handler must demonstrate his or her understanding of draft work as it pertains to the dog's ability, training and equipment. It further states under 'Equipment' that the handler provides the draft equipment including harness, traces, and draft apparatus appropriate for the test site conditions. That information is important and allows a judge to fail equipment if he or she does not feel it is appropriate to the site and other conditions on the day of the test.*

*The following brief guidelines should help handlers in making the correct choices of equipment both for tests and for general draftwork. However, these are just guidelines. The WDC encourages handlers to attend seminars, contact experienced handlers or experiment with equipment in safe and controlled situations in order to continue learning more about draft equipment.*

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## **Apparatus for non-snow conditions (Wagons, Carts, Travois)**

### *Wagons*

A wagon is a four-wheeled apparatus. It is usually spacious and can accommodate a larger load than a cart. Because it has 4 wheels, it does not tip, so balance of the load is not critical in a wagon. But what you gain in stability, you lose in maneuverability. A wagon is more difficult than a cart to back and a large wagon may need an auxiliary brake for going down hill when loaded. Wagons work best on level ground with fairly even surfaces. They are ideal on asphalt and on other road surfaces. The shafts for a wagon bear no weight from the load, so the position of the shafts is not as critical in a wagon as it is in a cart.

### *Carts*

A cart is a two-wheeled apparatus. It is a very versatile piece of equipment as it is highly maneuverable and is easily backed. But what you gain in maneuverability, you lose in stability; so balancing a load correctly is critical in a cart. Modification to the center of gravity, point of balance and type of wheels allow a cart to be adapted for use by different dogs and in different situations.

### *Travois*

A travois is essentially two long shafts, attached to the sides of a dog, which drag on the ground. A load is strapped to the shafts behind the dog.

Understanding the historical use of a travois provides draft work enthusiasts with some insight into the appropriate use for a travois. According to N. Henderson, 'Replicating the Dog Travois Travel,' Native American travois were suited to travel through open landscapes and seem to be limited to the Plains. Henderson makes a reference to the travois gliding over the tall prairie grasses. Through thick brush or woodlands, dogs were outfitted with backpacks.

Because a travois drags directly on the ground, there is always significant friction between it and the ground. The dog must work constantly and pull harder than with a wheeled apparatus. Due to the constant drag, 5 pounds of weight hauled with a travois is essentially equal to 25 pounds pulled by a wheeled apparatus. However, with a travois, there is no relief or let up on the dog.

A travois is not suitable for general draft work because it is so inefficient. It could be used in open pastures and on uneven plains, or in areas where wheels might get mired down. Wherever a wheeled apparatus can be used, it is always preferable. Carts and wagons are more comfortable and efficient and less demanding on the dog. A travois is not suitable for use on asphalt or other solid surfaces well suited to wheels.

## **Apparatus for Use on Snow (Pulks, Sleds, Toboggans)**

The varieties of apparatus that can be used on snow all- have the common trait of sliding directly on the surface, either on runners or on the bottom. Some may use shafts; others are pulled by a trace attached directly to the apparatus. Balance of a load on snow apparatus is not crucial since the weight of the load is down very low or directly on the ground. A load should be carefully secured, however, because placement of the load may affect pivot point and maneuverability. Sleds, toboggans and pulks can usually carry a good-sized load, but due to the friction with the ground, a dog must work harder to start the load. For this reason, the weight required for a draft test is less, than that required for carts and wagons. They also generally require more space to turn than wheeled apparatus. Because traces for snow apparatus are often long, a handler must be particularly aware that the dog does not start hauling with the traces tangled with a foot, or with traces positioned improperly.

### *Sleds*

A sled is an apparatus that has runners to elevate the bed of the apparatus, and works best on ice or hard packed snow; it does not work well in deep or fluffy snow. They include classic dogsleds and conventional children's sleds. A trace connects the dog's harness to the bed of the sled. Because a sled does not have shafts, the dog cannot stop the sled's forward motion. Stopping a sled must be accomplished by a foot or hand brake operated by the handler (as on a dogsled) or by a line attached to the back which can be held by the handler. Uphill or rough snow conditions may work to set-brake a sled, but a handler must always be aware and responsible for stopping the sled before it hits the dog. Traces are usually longer for sleds than for carts or wagons in order to allow space for the sled to be stopped before hitting the dog. A dog cannot make a sled move backward; backward motion must be accomplished by the handler with the cooperation of the dog backing to slacken its trace.

### *Toboggans*

A toboggan is an apparatus that has a curved front and a flat bed that rides directly on the snow. It works well on ice or hardpacked snow, and can also work reasonably well in deep or fluffy snow. Like a sled, it does not have shafts, so attachment of traces to the dog is the same as for a sled. A toboggan does not have a hand or foot brake like some sleds, so braking must be done through the use of a line attached to the back and held by a handler. When using a toboggan in deep or fluffy snow, the snow frequently brakes the apparatus. Toboggans are excellent for hauling significant loads in snow.

### *Pulks*

A pulk is an apparatus with a flat bottom that rides directly on the snow, but with curved edges that give it the shape of a very shallow 'boat'. Some pulks have shallow runners on the bottom. Because of its shape and the shallow runners, a pulk works very well in most kinds of snow. Pulks usually have shafts, but can also be used very efficiently with the shafts removed. Using a pulk with the shafts attached gives the advantage of heightened stability and prevention of sidestepping on slopes and the ability of the dog to brake the pulk, but adds the disadvantage of needing a large turning radius. Using a pulk with the shafts removed gives the advantage of greater maneuverability but does not allow for the dog to brake the pulk. Without shafts, a pulk is attached to a trace and is braked like a toboggan.

When a pulk does have shafts, the position of the shafts is not as critical as on a cart, since there is no weight from the load on the shafts. Shafts can rise from the pulk at a gradual angle to the side of the dog, or they can rise at an angle, then bend to run parallel to the ground along the side of the dog. The traces or singletree of the harness can attach at ground level to the front of the pulk or to a raised section between the shafts, if using shafts with a bend.

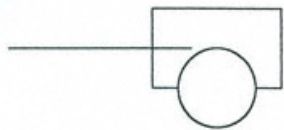
## Understanding the Equipment

### Balance

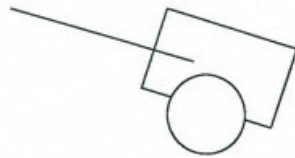
Understanding freight loads and how to balance them is an essential part of draft work. In wagons, balance of the load is not critical because wagons are inherently stable. Balance of a load is critical with a cart. The point of balance in a cart is not always over the axle, but rather over the center of gravity. This point can vary depending on the weight of the shafts. It is a handler's responsibility to check the apparatus when loaded to make sure that the freight is placed correctly to maintain the balance of the cart and the comfort of the dog. The shafts should not feel any heavier or lighter after loading. If the load is too far back it, the shafts will be light and bounce around pulling the harness up. If the load is too far forward, the shafts will be heavy and place unnecessary stress on the dog. An unbalanced load will decrease the efficiency of the pull as well as the comfort of the dog.

Sulky carts were designed to hold people, and when properly balanced, weight needs to be placed where a passenger would sit, not on the floor of the apparatus.

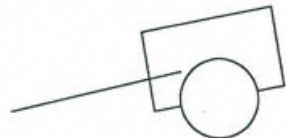
figure 1. Cart Modifications



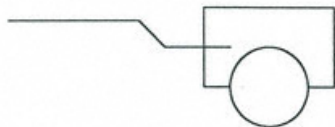
A well balance cart is very efficient. This cart has a straight line pull, nice center of gravity, and average size wheels which are usable on most terrain.



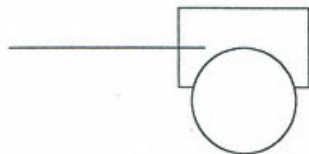
A large dog in the same cart throws the efficiency off. Because there is no longer a straight line pull. Adjustments to the apparatus may be made to offset the problems.



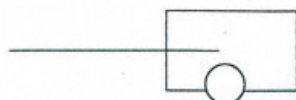
A small dog in the same cart also creates problems in efficiency.



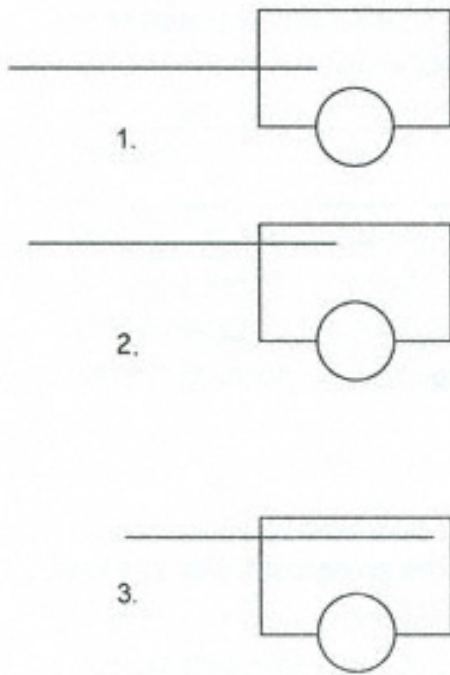
Solutions might include bent shafts.



A larger wheel will raise the cart but will also raise the center of gravity and make the apparatus less stable.



A smaller wheel will lower the cart but it will require more work on the dogs part and is less efficient on rutted trails.



This cart can be modified in many ways.

In figure #2, the shafts are raised to accommodate a larger dog.

In figure #3, the shafts are simply moved in and therefore the cart can accommodate a shorter bodied dog. The shafts will not interfere with turning radius.

When modifications are made to an apparatus, the point of pull should remain unrestricted. The shafts should remain approximately parallel to the ground for the most efficiency.

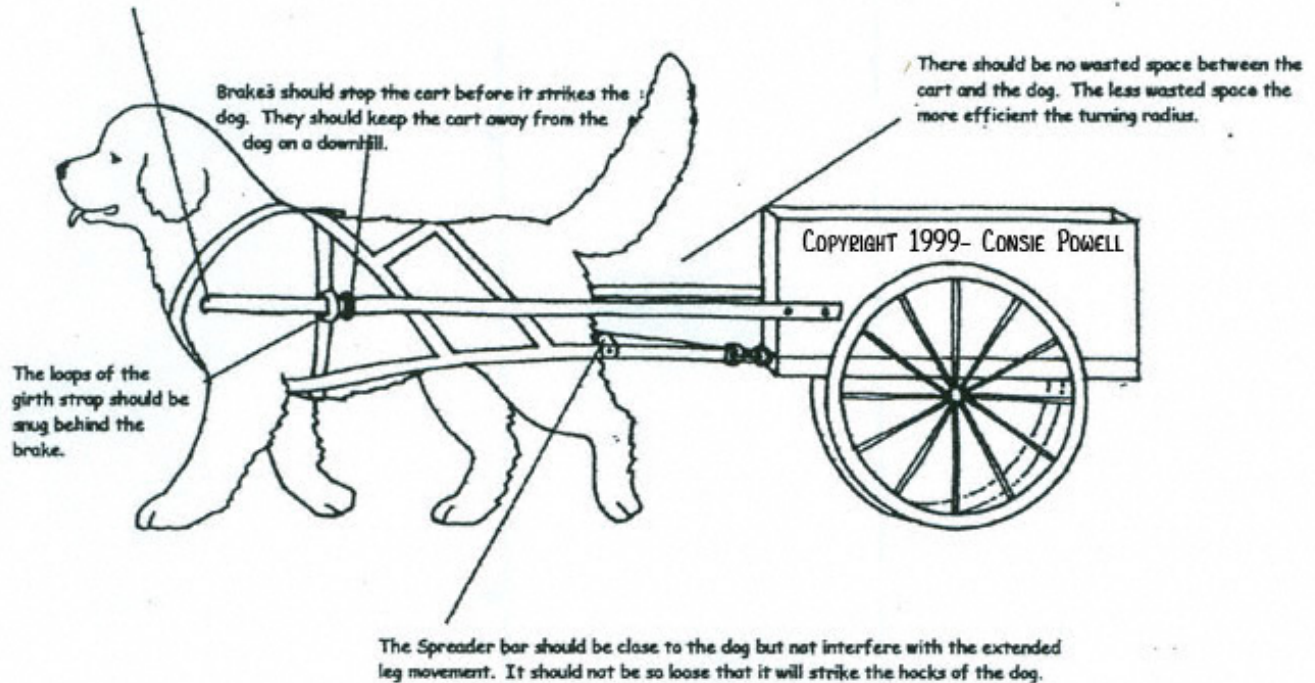
### *Wheels*

The size other wheels on a wagon or cart is important. Small wheels are inefficient, and the dog must work harder to pull a loaded apparatus. Small wheels are not recommended on hills and uneven terrain. Larger wheels ease the workload, but since they, make the center of gravity higher, the apparatus could tip more easily. The type of wheels should also be taken into consideration. Wide wheels are better on soft sand and in areas where a thin wheel would sink. Air-filled tires or tubed-tires provide a cushioned ride but a handler must have the necessary equipment along in order to repair a flat tire if one should occur while working or during a test.

### *Hitching*

A harness is attached to a wheeled apparatus at a single point if you are using a spreader bar or singletree and at two points if you have separate traces. The most efficient pull occurs when the traces are parallel to the ground. The point where a harness (or traces) attaches to the apparatus may be raised or lowered to accommodate a larger or smaller dog and still pull efficiently.

Shafts should come to the point of the shoulder, about even with the front of the dog. If they are too short they will jab into the dog. If they are too long they will interfere with the turning radius.



## Shafts

Shafts are used to guide the apparatus and are part of the braking system. On a cart they extend directly from the cart to the sides of the dog's body. On a wagon they are attached to the wagon's steering mechanism and extend from there to the sides of the dog's body. On carts the shafts should be parallel to the ground. The parallel position is not as critical in a wagon because the weight of the load is not extended onto the shafts in a wagon. The point where the harness (or traces) pulls on any apparatus should not be from the shafts but from the body of the apparatus. (The lone exception to this is with a travois, where the shafts are the apparatus.) Shafts should come to a point of the dog's shoulder that is about even with the front of the dog. If the front of the shaft is too long, it will interfere with the turning ability of the dog; too short and the shafts will jab into the dog on turns. The overall length of the shaft should allow the dog to be able to fully extend its hind legs without striking the cart. Shaft length should be checked while the cart or wagon is moving and when it is loaded.

## Brakes

The shafts also provide a place for brakes. Brakes consist of a projection either on top of, underneath, or around the shaft. The projection should be right behind the loop on the girth strap of the siwash harness. The loops of the girth strap should never be behind the brake. There should be no space between the loop and the brake. Brakes keep the cart or wagon from hitting the rear of the dog.

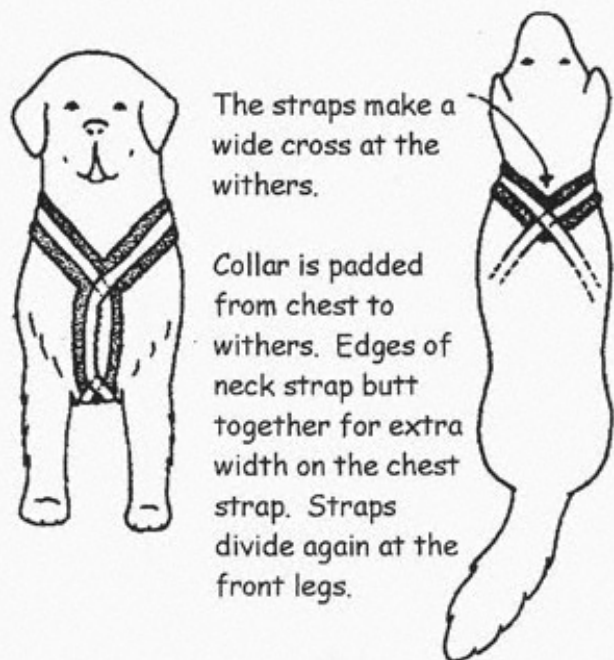
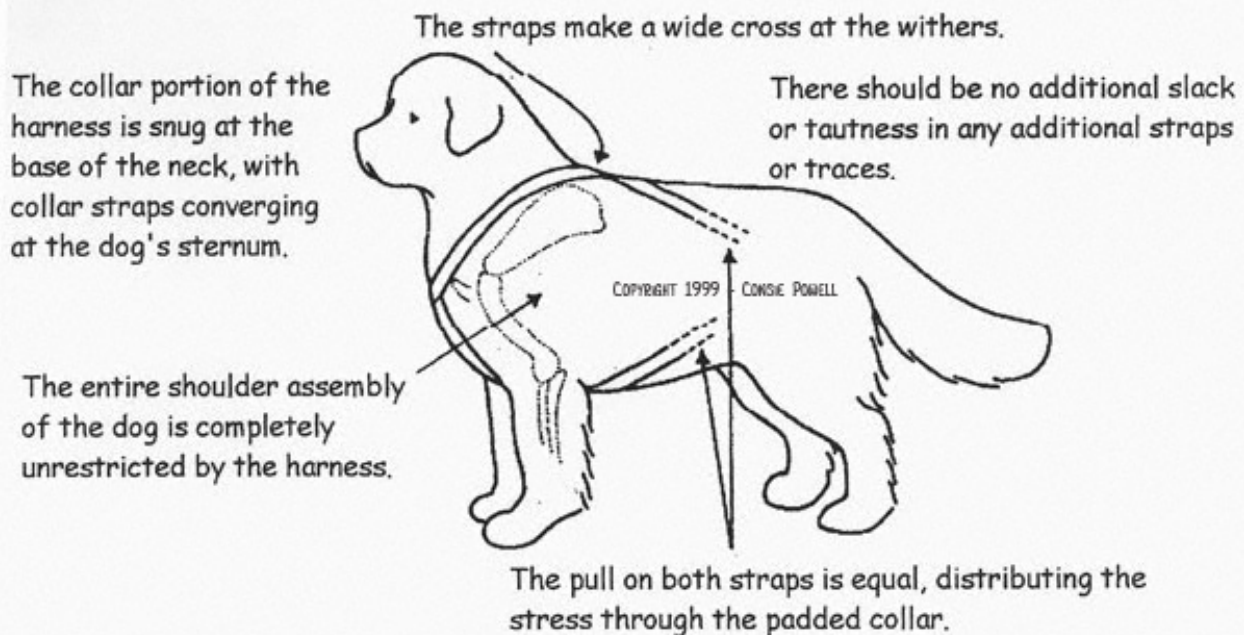
Conventional racing dogsleds have a foot brake that a handler can use to slow the sled. When using a shaftless pulk, sled or toboggan, snow will often serve to brake the apparatus, but a trace or lead attached to the rear can be used by a handler to keep the apparatus from bumping the back of the dog on downhill grades.

## Harnesses

### *Siwash Harnesses*

The WDC recommends the use of a siwash harness. There are many variations on the siwash, but they all work essentially the same. With a siwash harness, the dog pushes with its neck and chest into the collar and chest-piece of the harness, and its legs remain unrestricted. It is well suited for all types of terrain. Because of the way it fits the dog, a siwash is more comfortable and more efficient in use than other harness types.

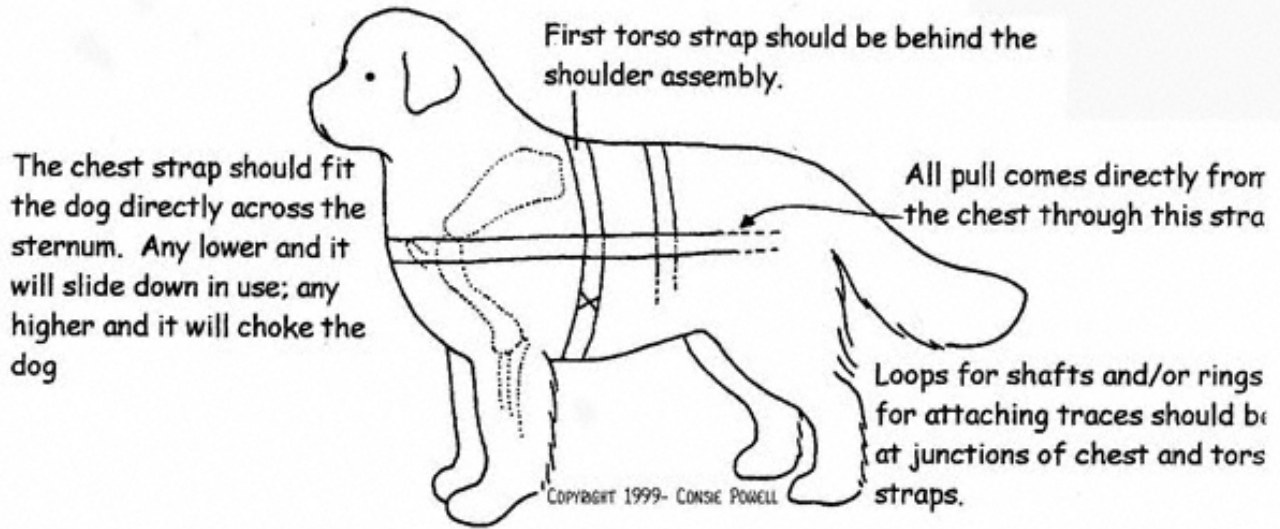
**Figure 4. Properly fitted Siwash Harness**



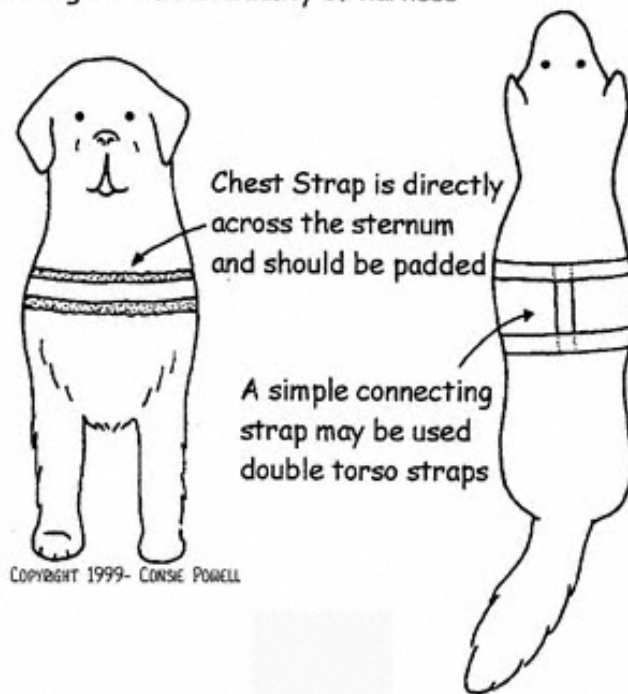
*Cross-chest or Parade Harness*

A harness with a cross-chest strap can be suitable for flat level terrain with only a light load. The cross-chest strap can restrict shoulder and forelimb movement. Because of its recommended limited use (that being more for exhibition than for hauling a load), it is often referred to as a 'parade harness'. This harness would be an acceptable choice on a level suburban draft test course or on a parade route.

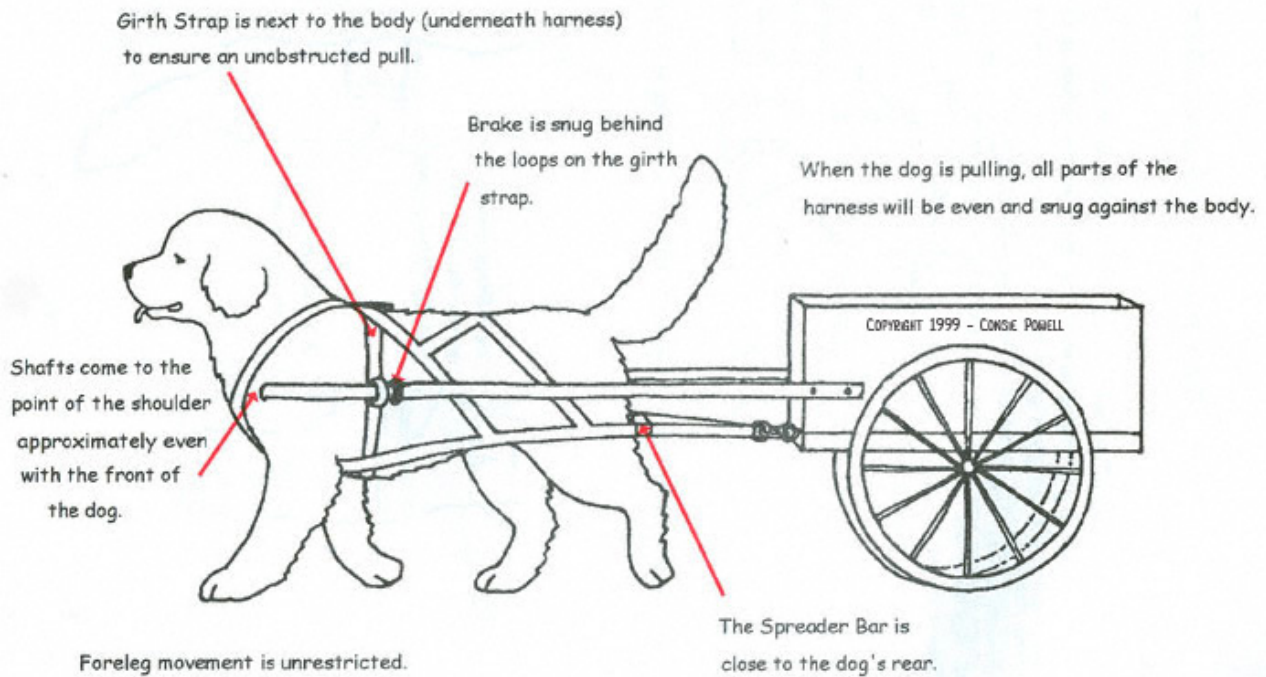
**Figure 5. The Properly Fitted Cross-Chest Harness**



Buckles on lower chest area work well to adjust fit of harness without interfering with functionality of harness



**Figure 6. Siwash Harness with Spreader Bar and Single Attachment**



**Figure 7. Siwash Harness with Two Traces and Double Attachment**

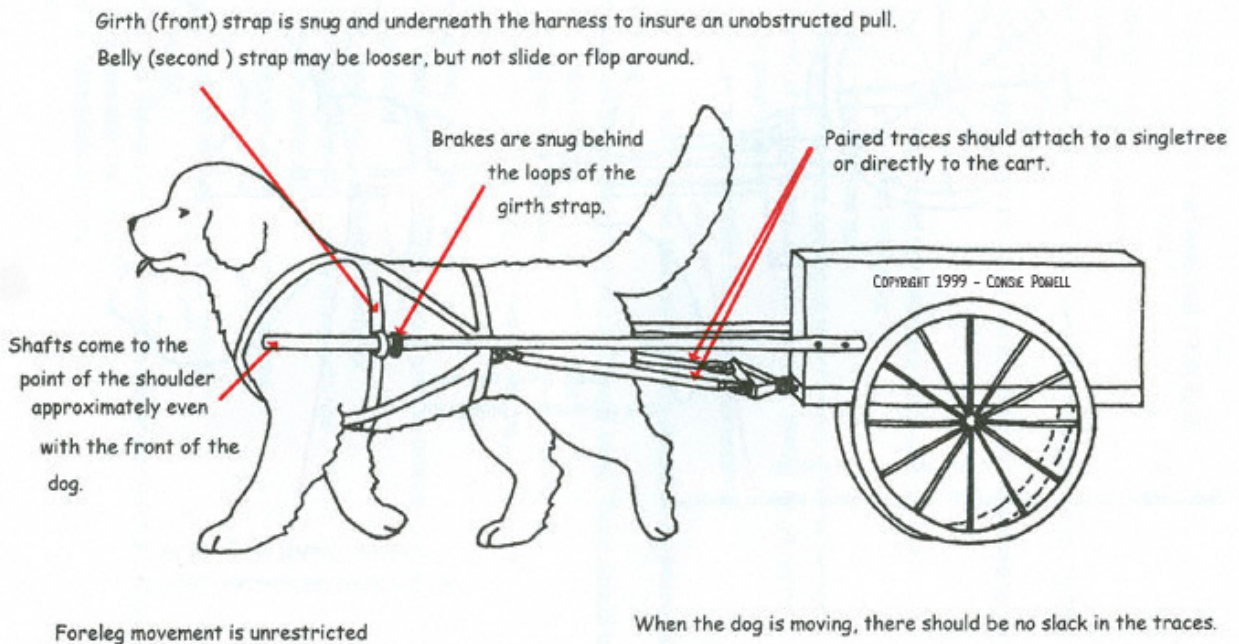
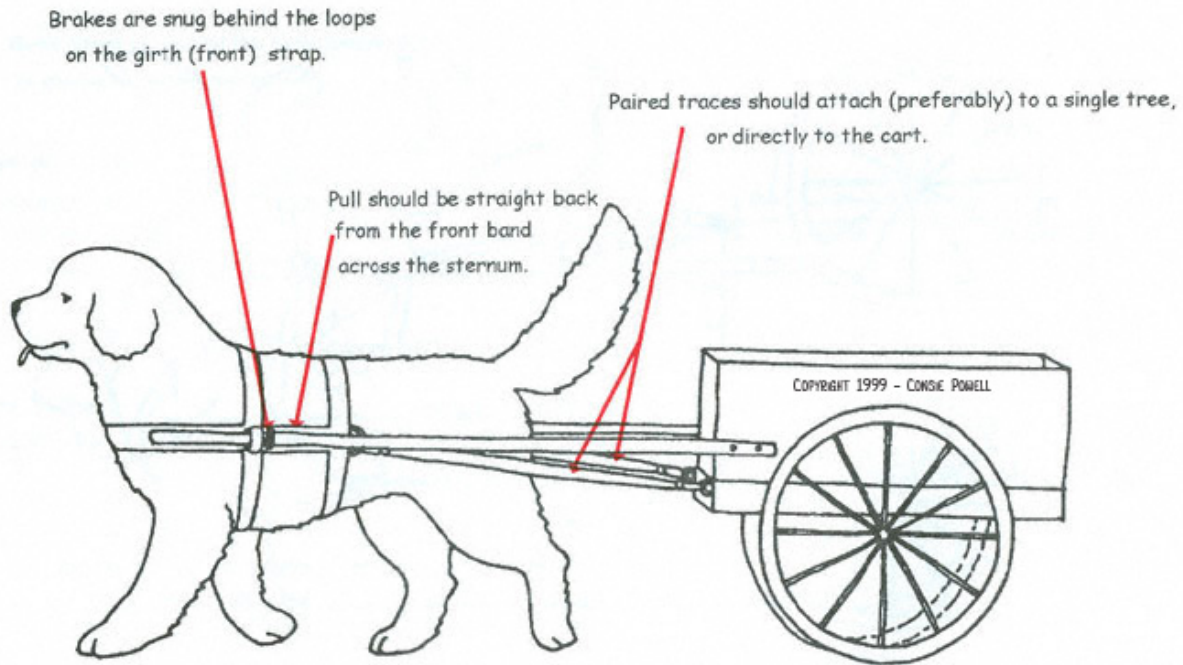


Figure 8. Parade Harness



Cross-chest pull is restrictive of foreleg movement and is therefore inefficient for hauling on hills.

When the dog is pulling, there should be no slack in the traces.

## Equipment Checklist

Check Harness for proper fit.

Check the front at breastbone, and fit at neck. Is it too tight or too loose?

Bellyband/ Girth Strap

Strap should be snug.

It should be underneath the harness straps to avoid chafing and for an unobstructed pull.

Harness and strap ends should not be dragging on the ground to create a safety hazard.

Spreader bar

Not too restrictive, should not interfere with leg extension

Not too loose, should not hit hocks.

Check harness for straight-line pull.

Make sure no straps are causing an interference with the harness.

The point of attachment of the harness should be in position to allow an efficient point of pull.

Is this a flat course, suitable for a parade harness?

Shafts

Check for the point of the shoulders. Shafts should be approximately even with the front of the dog. Brakes should be snugly behind the bellyband loops. There should be no wasted space to cause sloppy or inefficient braking.

The cart or wagon must stop before it strikes the dog.

The shafts should be properly placed and adjustments made to ensure that placement.

Check apparatus for proper balance.

Weight should be appropriately placed so as to maintain balance.

Appropriate apparatus

Travois - open, uneven fields or pastures

Four-Wheeled Wagons - mostly urban settings

Carts - most surfaces

Sleds, Toboggans, Pulks - snowy conditions

Check Collar

There should be no tags or special collars.

Handler is prepared

Handler has the equipment necessary to repair any minor problems.

Water is available for the dogs.

Handler has a leash with them.

Poop Bags